Energy levels and branching ratios [95Bu09].

## $^{50}_{26}$Fe

| $E^*$ [keV] | $J^\pi$ | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. | Branching ratios in percentage | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | $E_f^*$: | 0.0 | 765 | 1852 | 3160 | 4787 | 6368 |
| | | | $J_f^\pi$: | $0^+$ | $\langle 2^+\rangle$ | $\langle 4^+\rangle$ | $\langle 6^+\rangle$ | $\langle 8^+\rangle$ | $\langle 10^+\rangle$ |
| 0.0 | $0^+$ | 155(11) ms | | | | | | | |
| 765.0(10) | $\langle 2^+\rangle$ | | | x | | | | | |
| 1852.0(15) | $\langle 4^+\rangle$ | | | | x | | | | |
| 3160.0(18) | $6^+$ | | 02Le21 | | | x | | | |
| 4787.1(20) | $8^+$ | | 02Le21 | | | | x | | |
| 6367(2) | $10^+$ | | 02Le21 | | | | | x | |
| 6994(3) | $11^+$ | | 02Le21 | | | | | | x |
| 8481(77) | $\langle 6^+\rangle$ | | | | | | | | |

Additional data on this isotope can be found in [02LeZX, 01Lu14, 01Le31, 96Fa09].

Energy levels [97Zh09].

## $^{51}_{26}$Fe

| $E^*$ [keV] | $2J^\pi$ | $I_\tau$ ($^3$He,$^6$He) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|
| 0 | $5^-$ | 6 | 305(5) ms | 77Mu03 |
| 262(6) | $\langle 7^-\rangle$ | 25 | | 77Mu03 |
| 1218(10) | | 2 | | 77Mu03 |
| 1525(9) | | 6 | | 77Mu03 |
| 1866(13) | | 2 | | 77Mu03 |
| 2063(7) | $\langle 3^+\rangle$ | 15 | | 77Mu03 |
| 2489(8) | $\langle 1^+\rangle$ | 6 | | 77Mu03 |
| 3013(9) | | 5 | | 77Mu03 |
| 3127(9) | | 7 | | 77Mu03 |
| 3310(10) | | 5 | | 77Mu03 |
| 3964(12) | | 4 | | 77Mu03 |
| 4456(13) | | 6 | | 77Mu03 |
| | | 77Mu03 | | Ref. |

Additional data on this isotope can be found in [00EkZZ].
$I_{^6He}$ is a yield of $^6$He from three-neutron pickup reaction ($^3$He,$^6$He) measured at 10° [77Mu03].

Energy levels and branching ratios [00Hu06].

## $^{52}_{26}$Fe

| $E^*$ [keV] | $J^\pi$ | $T$ | $L$ ($\tau$,n) | $d\sigma/d\Omega$ $\mu$b/sr | $\sigma$ ($\tau$,n) $\mu$b/sr | $L$ (p,t) | $\sigma$ (p,t) $\mu b$ | $\varepsilon$ (p,t) | $\sigma$ (p,t) $\mu$b/sr | $\varepsilon$ (p,t) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | $0^+$ | | 0 | 620(20) | 1640(160) | 0 | 13.4* | 2.16 | 157(15) | 2.1 | 8.275(8) h | 75Bo14 |
| 849.44(10) | $2^+$ | | 2 | 70(10) | 60(10) | 2 | 6.0 | 1.49 | 24(2) | 0.86 | >0.7 ps | 75Bo14 |
| 2384.7(2) | $4^+$ | | 4 | 14(3) | | 4 | 1.5 | 1.10 | 5.6(5) | 0.20 | 0.28(+14-21) ps | 75Bo14 |

(continued) **$^{52}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $T$ | $L$ ($\tau$,n) | $d\sigma/d\Omega$ $\mu$b/sr | $\sigma$ ($\tau$,n) $\mu$b/sr | $L$ (p,t) | $\sigma$ (p,t) $\mu b$ | $\varepsilon$ (p,t) | $\sigma$ (p,t) $\mu$b/sr | $\varepsilon$ (p,t) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2759.8(9) | $2^+$ | | 2 | 28(5) | | $\langle 2\rangle$ | 0.27 | | 0.9(1) | | 0.14(+9-5) ps | 75Bo14 |
| 3586.5(10) | $4^+$ | | 4 | 40(5) | | 4 | 1.3 | | 4.9(5) | 1.0 | 0.28(+21-7) ps | 75Bo14 |
| 4145.6(20) | $0^+$ | | 0 | 230(15) | 360(40) | 0 | 0.57 | | 4.0(4) | | | 75Bo14 |
| 4326.4(5) | $6^+$ | | | | | | 0.55 | 1.00 | | | | 78De18 |
| 4397(3) | $3^-$ | | | | | 3 | 6.7 | | 37(3) | 1.36 | | 78De18 |
| 4456(8) | $2^+$ | | 2 | 54(15) | | 2 | 0.44 | | | | | 75Bo14 |
| 4850.8(11) | $5^-$,$6^+$ | | | | | $\langle 5,6\rangle$ | 0.44 | | 3.1(3) | 0.15 | 0.5(+23-2) ps | 78De18 |
| 4896(15) | | | | | | | 0.11 | | | | | 78De18 |
| 5139.6(13) | $5^-$ | | | | | 5 | 2.7 | | | | | 78De18 |
| 5328(8) | $4^+$ | | | | | 4 | 0.92 | | | | | 78De18 |
| 5363(5) | $0^+$ | | 0 | 19(5) | | 0 | 3.1 | | 28(2) | 2.9 | | 75Bo14 |
| 5439(15) | | | | | | | 0.32 | | | | | 78De18 |
| 5483(20) | $4^+$ | | | | | 4 | 0.11 | | | | | 78De18 |
| 5529(20) | $4^+$ | | | | | 4 | 0.10 | | | | | 78De18 |
| 5563(8) | $\langle 3^-\rangle$ | | | | | $\langle 3\rangle$ | 0.25 | | | | | 78De18 |
| 5655.4(5) | $6^+$ | 1 | | | | 6 | 1.6 | | 10(1) | 0.38 | | 78De18 |
| 5718(8) | $0^+$ | | 0 | 180(20) | 180(20) | 0 | 0.66 | | | | | 75Bo14 |
| 5792(10) | | | | | | | 0.48 | | | | | 78De18 |
| 5829(5) | $2^+$ | | 2 | 28(10) | | 2 | 0.88 | | 4.3(3) | 3.8 | | 75Bo14 |
| 5965(15) | $4^+$ | | | | | 4 | 0.26 | | | | | 78De18 |
| 6034(5) | $2^+$ | 1 | | | | 2 | 3.9 | | 17(1) | 0.46 | | 78De18 |
| 6044(5) | $2^+$ | 1 | $\langle 2\rangle$ | 30(7) | | 2 | 2.6 | | | | | 75Bo14 |
| 6174(15) | $\langle 6^+\rangle$ | | | | | $\langle 6\rangle$ | 0.23 | | | | | 78De18 |
| 6231(15) | | | | | | | 0.15 | | | | | 78De18 |
| 6360 | $8^+$ | | | | | | | | | | | 02Le21 |
| 6416(5) | $4^+$ | 1 | | | | | 4.7 | | 16(3) | 0.53 | | 78De18 |
| 6454(15) | | | | | | | 0.49 | | | | | 78De18 |
| 6483(5) | $2^+$ | | | | | 2 | 0.85 | | | | | 78De18 |
| 6531(10) | $3^-$ | | 3 | 52(7) | | | 0.27 | | | | | 75Bo14 |
| 6564(8) | | | | | | | 0.39 | | | | | 78De18 |
| 6634(10) | $\langle 0^+\rangle$ | | | | 210(20) | $\langle 0\rangle$ | 0.25 | | | | | 78De18 |
| 6714(8) | $2^+$ | | 2 | 75(10) | | | 0.65 | | | | | 75Bo14 |
| 6744(15) | | | | | | | | | | | | |
| 6772(8) | $\langle 2^+\rangle$ | | | | | 2 | 0.19 | | | | | 78De18 |
| 6820(130) | $\langle 12^+\rangle$ | | | | | | | | | | 45.9(6) s | |
| 6882(5) | $1^-$ | | | | | 1 | 0.25 | | | | | 78De18 |
| 6927(15) | $0^+$ | | | | | 0 | 2.0 | | 17(1) | 11 | | 77Su01 |
| 6957.5 | $12^+$ | | | | | | | | | | | 02Le21 |
| 7013(5) | $3^-$ | | | | | 3 | 0.95 | | | | | 78De18 |
| 7124(10) | $\langle 4^+\rangle$ | | | | | $\langle 4\rangle$ | 0.31 | | | | | 78De18 |
| 7261(15) | $\langle 6^+\rangle$ | | | | | $\langle 6\rangle$ | 0.32 | | | | | 78De18 |
| 7289(8) | | | | | | | 0.61 | | | | | 78De18 |
| 7338(10) | | | | | | | 0.13 | | | | | 78De18 |
| 7381 | $10^+$ | | | | | | | | | | | 02Le21 |
| 7463(8) | $2^+$ | | 2 | 25(5) | | 2 | 0.60 | | | | | 75Bo14 |

(continued) **$^{52}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $T$ | $L$ ($\tau$,n) | $d\sigma/d\Omega$ $\mu$b/sr | $\sigma$ ($\tau$,n) $\mu$b/sr | $L$ (p,t) | $\sigma$ (p,t) $\mu b$ | $\varepsilon$ (p,t) | $\sigma$ (p,t) $\mu$b/sr | $\varepsilon$ (p,t) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7510(15) | | | | | | | 0.20 | | | | | 78De18 |
| 7611(10) | $6^+$ | 1 | | | | 6 | 0.84 | | | | | 78De18 |
| 7636(15) | $4^+$ | 1 | | | | 4 | 0.73 | | | | | 78De18 |
| 7787(10) | | | | | | | 0.26 | | | | | 78De18 |
| 7817(15) | | | | | | | 0.16 | | | | | 78De18 |
| 7935(10) | $2^+$ | | | | | 2 | 0.60 | | | | | 78De18 |
| 8037(12) | $0^+$ | 1 | 0 | 690(40) | 1010(100) | 0 | 0.17 | | | | | 75Bo14 |
| 8067(8) | | | | | | | 0.23 | | | | | 78De18 |
| 8097(10) | | | | | | | 0.32 | | | | | 78De18 |
| 8122(15) | | | | | | | 0.13 | | | | | 78De18 |
| 8146(10) | $3^-$ | | | | | 3 | 0.18 | | | | | 78De18 |
| 8184(10) | | | | | | | 0.27 | | | | | 78De18 |
| 8207(8) | $\langle 3^- \rangle$ | | | | | $\langle 3 \rangle$ | 0.54 | | | | | 78De18 |
| 8240(10) | | | | | | | 0.72 | | | | | 78De18 |
| 8327(10) | $\langle 3^- \rangle$ | | | | | $\langle 3 \rangle$ | 0.64 | | | | | 78De18 |
| 8354(5) | $2^+$ | $\langle 1 \rangle$ | 2 | 140(15) | 260(30) | 2 | 1.6 | | | | | 75Bo14 |
| 8401(8) | $2^+$ | | | | | 2 | 0.55 | | | | | 78De18 |
| 8425(15) | | | | | | | 0.25 | | | | | 78De18 |
| 8461(10) | | | | | | | | | | | | |
| 8511(8) | $4^+$ | | | | | 4 | 0.76 | | | | | 78De18 |
| 8535(5) | $4^+$ | | | | | 4 | 2.7 | | | | | 78De18 |
| 8561(5)** | $0^+$ | 2 | 0 | 420(50) | 500(60) | 0 | 7.3 | | | | | 75Bo14 |
| 8618(8) | | | | | | | 0.55 | | | | | 78De18 |
| 8661(15) | $\langle 4^+ \rangle$ | | | | | $\langle 4 \rangle$ | 0.27 | | | | | 78De18 |
| 8677(10) | | | | | | | 0.34 | | | | | 78De18 |
| 8727(15) | | | | | | | | | | | | |
| 8748(10) | $4^+$ | $\langle 1 \rangle$ | | | | 4 | 1.3 | | | | | 78De18 |
| 8770(10) | $\langle 3^- \rangle$ | | | | | $\langle 3 \rangle$ | 0.87 | | | | | 78De18 |
| 8832(10) | | | | | | | 0.31 | | | | | 78De18 |
| 8872(10) | | | | | | | | | | | | |
| 8900(8) | $\langle 2^+ \rangle$ | | | | | $\langle 2 \rangle$ | 0.44 | | | | | 78De18 |
| 8936(10) | | | | | | | 0.35 | | | | | 78De18 |
| 8962(10)*** | $\langle 6^+ \rangle$ | $\langle 1 \rangle$ | | | | $\langle 6 \rangle$ | 2.2 | | | | | 78De18 |
| 8985(10) | | | | | | | | | | | | |
| 9044(15) | | | 2 | 68(10) | | | 0.29 | | | | | 75Bo14 |
| 9059(15) | | | | | | | 0.46 | | | | | 78De18 |
| 9130(50) | | | | | | | | | | | | |
| 9213(8) | | | | | | | 0.56 | | | | | 78De18 |
| 9279(8) | $4^+$ | | | | | | 1.3 | | | | | 78De18 |
| 9311(8) | | | | | | | | | | | | |
| 9338(10) | | | | | | | 0.76 | | | | | 78De18 |
| 9357(15) | | | | | | | | | | | | |
| 9458(10) | | | | | | | 0.36 | | | | | 78De18 |
| 9497(8) | | | | | | | 0.57 | | | | | 78De18 |
| 9770(50) | | | | | | | | | | | | |

(continued) **$^{52}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $T$ | $L$ ($\tau$,n) | $d\sigma/d\Omega$ $\mu$b/sr | $\sigma$ ($\tau$,n) $\mu$b/sr | $L$ (p,t) | $\sigma$ (p,t) $\mu b$ | $\varepsilon$ (p,t) | $\sigma$ (p,t) $\mu$b/sr | $\varepsilon$ (p,t) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10006(5) | $\langle 2^+ \rangle$ | $\langle 2 \rangle$ | 2 | 55(7) | | $\langle 2 \rangle$ | 1.4 | | | | | 75Bo14 |
| 10049(10) | | | | | | | 0.56 | | | | | 78De18 |
| 10332(5) | $0^+$ | | 0 | 95(7) | 200(20) | 0 | 1.5 | | | | | 72Ev02 |
| 10810(50) | | | | | | | | | | | | |
| 10990(20) | $0^+$ | 2 | 0 | 185(15) | | | | | | | | 75Bo14 |
| 11440(50) | | | | | | | | | | | | |
| 11640(50) | | | | | | | | | | | | |
| 11780(30) | $2^+$ | 2 | 2 | 60(10) | | | | | | | | 75Bo14 |
| | | | | 75Bo14 | 72Ev02 | | 78De18 | 78De18 | 77Su01 | 77Su01 | | Ref. |

Additional data on this isotope can be found in [03Ax01, 98Ur05, 75Al05].

* Integrated cross section/$2\pi$ in $\mu b$ [78De18, 00Hu06].

** Doublet of $0^+$ states separated by about 4 keV [78De18].

*** multiplet; adopted $E^*$ from [78De18] are systematically ≈25 keV greater than those of [77Su01].

Data from two measurements of two-nucleon transfer reactions ($\tau$,n) [75Bo14, 72Ev02] are given at left and data from two measurements of two-nucleon pickup reaction (p,t) [78De18, 77Su01] – at right.

Measurements of $\sigma$ ($\tau$,n) in $\mu$b/sr (in c.m. frame) were performed at 0° for $L$=0, 20° for $L$=2, 25° for $L$=3, 35° for $L$=4 [75Bo14, 00Hu06].

Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [00Hu06]. Part 2 **$^{52}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $E^*_f$: $J^\pi_f$: | 0.0 $0^+$ | 849 $2^+$ | 2385 $4^+$ | 2760 $2^+$ | 4326 $\langle 6^+ \rangle$ |
|---|---|---|---|---|---|---|---|
| | | | Branching ratios in percentage | | | | |
| 849.44(10) | $2^+$ | | 100 | | | | |
| 2384.7(2) | $4^+$ | | | 100 | | | |
| 2759.8(9) | $2^+$ | | 76(8) | 24(8) | | | |
| 3586.5(10) | $4^+$ | | | 100 | | | |
| 4145.6(20) | $0^+$ | | | 100 | | | |
| 4326.4(5) | $6^+$ | | | | 100 | | |
| 4397(3) | $3^-$ | | | 100 | | | |
| 4850.8(11) | $5^-$,$6^+$ | | | | 100 | | |
| 5139.6(13) | $5^-$ | | | 71(29) | | 29(14) | |
| 5655.4(5) | $6^+$ | | | | | | 100 |

Energy levels and branching ratios [99Hu14]. **$^{53}_{26}$Fe**

| $E^*$ [keV] | $2T$ | $2J^\pi$ | $L$ | $C^2S$ (p,d) | $C^2S$ (d,t) | $L$ | $C^2S$ $(\tau,\alpha)$ | $C^2S$ $(\tau,\alpha)$ | $\sigma$ $(\tau,\alpha)$ $\mu$b/sr | $C^2S$ $(\tau,\alpha)$ | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | | $7^-$ | 3 | 3.48 | 3.8(5) | 3 | 3.58 | 3.58* | 3720 | 4.89 | 8.51(2) m | 81Ka38 |
| 741.11(10) | | $3^-$ | 1 | 0.05 | 0.14(3) | ⟨1⟩ | 0.08 | | 45 | 0.06 | 63.5(14) ns | 80En02 |
| 774.42(11) | | $1^-$ | 1 | 0.01 | | | | | incl | | 2.0(2) ns | 79Su01 |
| 1328.01(24) | | $9^-$ | | | | | | | 27 | | 17(7) fs | 77Se08 |
| 1423.5(3) | | $5^-$ | 3 | 0.08 | 0.07(2) | 3 | 0.06 | | 68 | 0.03 | 2.8(7) ps | 78Fo34 |
| 1696.32(18) | | $7^-$ | 3 | 0.006 | | | | | | | 1.4(+21-7) ps | 79Su01 |
| 1896 | | | | | | | | | | | | |
| 2042.6(10) | | $3^-$ | 1 | 0.06 | 0.09(3) | 1 | 0.05 | | 78 | 0.05 | 0.24(5) ps | 80En02 |
| 2315(5) | | $1^+$ | | | | 0 | 0.03 | | 53 | | | 78Fo34 |
| 2339.24(25) | | $11^-$ | | | | | | | | | 53(12) fs | |
| 2405(4) | | $5^-$ | | | | | | | | | | |
| 2479(2) | | | | | | | | | | | 35(8) fs | |
| 2680(12) | | $3^+,5^+$ | | | | 2 | 0.02 | | | | | 78Fo34 |
| 2829.0(20) | | | | | | | | | | | 35(14) fs | |
| 2844.8(20) | | $7^-$ | 3 | 0.39 | | 3 | 0.36 | | 360 | 0.46 | 33(12) fs | 79Su01 |
| 2892 | | | | | | | | | | | | |
| 2915(5) | | $7^-,5^-$ | 3 | 0.06 | | | | | | | | 79Su01 |
| 2926(5)*** | | $\langle 1^+ \rangle$ | | | | | | | 91 | 0.10 | | 78Fo34 |
| 2944(3) | | $3^-,1^-$ | 1 | 0.05 | | | | | | | | 79Su01 |
| 2966.9(20) | | $1^+$ | 0 | 1.31 | | 0 | 0.85 | 1.24 | 1220 | 0.67 | 78(15) fs | 81Ka38 |
| 3040.4(3) | | $19^-$ | | | | | | | | | 2.526(24) m | |
| 3175.9(5) | | $13^-$ | | | | | | | | | <132 fs | |
| 3333(3) | | $7^-$ | 3 | 0.58 | | 3 | 0.64 | 0.65 | 1000 | 0.94 | | 81Ka38 |
| 3399(3) | | $3^+$ | 2 | 0.97 | | 2 | 1.07 | 1.09 | 690 | 0.57 | | 81Ka38 |
| 3462.7(6) | | $15^-$ | | | | | | | | | | |
| 3567(3) | | $7^-$ | 3 | 0.30 | | 3 | 0.34 | | 30 | 0.39 | | 79Su01 |
| 3697(3) | | $3^-,1^-$ | 1 | 0.04 | | 1 | 0.04 | | 30 | | | 79Su01 |
| 3774(5) | | $7^-,5^-$ | 3 | 0.04 | | 3 | 0.04 | | 100 | 0.02 | | 79Su01 |
| 3803(5) | | $3^-,1^-$ | 1 | 0.03 | | 1 | 0.02 | | 110 | 0.02 | | 79Su01 |
| 3852(5) | | $3^-,1^-$ | 1 | 0.03 | | 1 | 0.02 | | 140 | 0.04 | | 79Su01 |
| 3892(5) | | $7^-,5^-$ | 3 | 0.04 | | | | | | | | 79Su01 |
| 4149(5) | | | | | | | | | 43 | | | 77Se08 |
| 4170(12)*** | | $3^+,5^+$ | | | | 2 | 0.03 | | | | | |
| 4250(3)** | 3 | $7^-$ | 3 | 2.11 | | 3 | 2.38 | | 2080 | 3.13 | | 79Su01 |
| 4451(5) | | | | | | | | | | | | |
| 4557(7) | | $7^-,5^-$ | 3 | 0.04 | | | | | | | | 79Su01 |
| 4575(15) | | $3^+,5^+$ | | | | 2 | 0.03 | | | | | |
| 4604(10) | | | | | | | | | | | | |
| 4637(15) | | $7^-,5^-$ | | | | 3 | 0.03 | | 29 | 0.06 | | 77Se08 |
| 4671(10) | | | | | | | | | | | | |
| 4698(15) | | | | | | | | | | | | |
| 4764(10) | | | | | | | | | | | | |
| 4801(10) | | | | | | | | | | | | |
| 4812.8(21) | | | | | | | | | | | | |
| 4839(15) | | $\langle 7^-,5^- \rangle$ | | | | ⟨3⟩ | 0.03 | | | | | |

(continued) **$^{53}_{26}$Fe**

| $E^*$ [keV] | $2T$ | $2J^\pi$ | $L$ | $C^2S$ (p,d) | $C^2S$ (d,t) | $L$ | $C^2S$ $(\tau,\alpha)$ | $C^2S$ $(\tau,\alpha)$ | $\sigma$ $(\tau,\alpha)$ $\mu$b/sr | $C^2S$ $(\tau,\alpha)$ | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4884(10) | | $7^-$,$5^-$ | 3 | 0.04 | | | | | 29 | 0.06 | | 79Su01 |
| 5093(5) | | | | | | | | | | | | |
| 5185(7) | | $3^+$,$5^+$ | | | | 2 | 0.07 | | 37 | 0.03 | | 77Se08 |
| 5454(5) | | $\langle 3^+\rangle$ | | | | 2 | 0.19 | | | | | |
| 5478(7) | | $3^+$,$5^+$ | | | | | | | | | | |
| 5536(15) | 3 | | | | | $\langle 1\rangle$ | 0.04 | | 71 | 0.03 | | 77Se08 |
| 5568(7) | | $3^+$,$5^+$ | | | | 2 | 0.05 | | | | | |
| 5606(8) | | | | | | | | | | | | |
| 5672(15) | | | | | | | | | | | | |
| 5722 | | | | | | | | | | | | |
| 5960(6) | | | | | | | | | | | | |
| 5994(9)*** | | | | | | $\langle 2\rangle$ | 0.02 | | | | | 78Fo34 |
| 6110(15)*** | | | | | | $\langle 2\rangle$ | 0.06 | | | | | 78Fo34 |
| 6152(9) | | | | | | | | | | | | |
| 6179(8) | | | | | | | | | | | | |
| 6294(15)*** | | | | | | | | | | | | |
| 6388(8) | | $1^+$ | 0 | 0.05 | | | | | | | | 79Su01 |
| 6419(9) | | | | | | | | | | | | |
| 6449(15) | | $3^+$,$5^+$ | | | | 2 | 0.07 | | | | | 78Fo34 |
| 6504(9) | | $1^+$ | 0 | 0.05 | | | | | | | | 79Su01 |
| 6528(20) | | $5^-$,$7^-$ | | | | 3 | 0.04 | | | | | 78Fo34 |
| 6569(10)** | 3 | $\langle 3\rangle^-$ | 1 | 0.03 | | 1 | 0.08 | | | | | 79Su01 |
| 6696(20) | | $3^+$,$5^+$ | | | | 2 | 0.04 | | | | | 78Fo34 |
| 6800(10) | | | | | | | | | | | | |
| 6831(10) | | | | | | | | | | | | |
| 6942(10) | 3 | $1^+$ | 0 | 0.23 | | 0 | 0.11 | | | | | 79Su01 |
| 7028(10)** | 3 | $1^+$ | 0 | 1.65 | | 0 | 0.62 | | | | | 79Su01 |
| 7122(10) | | $1^+$ | 0 | 0.07 | | | | | | | | 79Su01 |
| 7213(20) | 3 | $3^+$,$5^+$ | | | | 2 | 0.13 | | | | | 78Fo34 |
| 7263(10)** | 3 | $\langle 3\rangle^+$ | 2 | 0.52 | | 2 | 0.86 | | | | | 79Su01 |
| 7304(15) | 3 | | 2 | 0.09 | | 2 | 0.18 | | | | | 79Su01 |
| 7364(15) | 3 | $3^+$,$5^+$ | | | | 2 | 0.13 | | | | | 78Fo34 |
| | | | | 79Su01 | 80En02 | | 78Fo34 | 81Ka38 | 77Se08 | | | Ref. |
| | | | | | 99Hu14 | | | | 77Se08 | | | Ref. |

Additional data on this isotope can be found in [77Se08, 73Ne18, 73Ne05].

* Normalized to the ground-state value of [78Fo34].

** Isobar-analog of $^{53}$Mn ground state and excited states.

*** Doublet.

Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [99Hu14]. Part 2 **$^{53}_{26}$Fe**

| $E^*$ | $2J^\pi$ | | Branching ratios in percentage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | $E^*_f$: | 0.0 | 741 | 774 | 1328 | 2339 | 3176 | 3463 |
| [keV] | | $2J^\pi_f$: | $7^-$ | $3^-$ | $1^-$ | $9^-$ | $11^-$ | $13^-$ | $15^-$ |
| 741.11(10) | $3^-$ | | 100 | | | | | | |
| 774.42(11) | $1^-$ | | | 100 | | | | | |
| 1328.01(24) | $9^-$ | | 100 | | | | | | |
| 1423.5(3) | $5^-$ | | | 79 | 21 | | | | |
| 1696.32(18) | $7^-$ | | <5 | 100 | | | | | |
| 2042.6(10) | $3^-$ | | 100 | | | | | | |
| 2339.24(25) | $11^-$ | | 13(2) | | | 87 | | | |
| 2479(2) | | | | 100 | | | | | |
| 2829.0(20) | | | 100 | | | | | | |
| 2844.8(20) | $7^-$ | | 100 | | | | | | |
| 2966.9(20) | $1^+$ | | | 100 | | | | | |
| 3040.4(3) | $19^-$ | | 0.06(1) | | | 1.3(1) | 99 | | |
| 3175.9(5) | $13^-$ | | | | | | 100 | | |
| 3462.7(6) | $15^-$ | | | | | | | 100 | |
| 4812.8(21) | | | | | | | | | 100 |

Energy levels and branching ratios [87Wa04, 93Hu04]. **$^{54}_{26}$Fe**

| $E^*$ | $J^\pi$ | $L$ | $\beta R$ | $\sigma$ (p,p′) | $\sigma$ ($\tau$,n) | $L$ | $\sigma$ ($\tau$,n) | $\sigma$ (p,t) | $L$ | $\sigma$ (p,t) | $L$ | $S_\alpha$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| [keV] | | (p,p′) | $fm$ | $\mu$b/sr | $\mu$b/sr | ($\tau$,n) | $\mu$b/sr | $\mu$b/sr | (p,t) | $\mu b$ | (d,$^6$Li) | (d,$^6$Li) | |
| 0.0 | $0^+$ | | | | 760(70) | 0 | 670(20) | 229 | 0 | 150(30) | 0 | 0.11(2) | 75Bo14 |
| 1408.20(19) | $2^+$ | 2 | 0.130 | | 50(10) | 2 | 75(10) | | 2 | 19(4) | 2 | 0.07(1) | 85Fu10 |
| 2538.2(3) | $4^+$ | 4 | 0.31 | | | | | | | | ⟨4⟩ | <0.09 | 85Fu10 |
| 2561.3(4) | $0^+$ | 0 | 0.31 | | | | | | 0 | 41(8) | ⟨0⟩ | <0.06 | 85Fu10 |
| 2949.3(5) | $6^+$ | | | | 30(10) | 2 | 26(5) | | 2 | 63(13) | ⟨6⟩ | <0.12 | 75Bo14 |
| 2959.0(5) | $2^+$ | 2 | 0.49 | | incl | | | | | | ⟨2⟩ | <0.06 | 85Fu10 |
| 3166.0(5) | $2^+$ | 2 | 0.24 | | | 2 | 27(5) | | 2 | 4.3(8) | ⟨2⟩ | 0.004 | 85Fu10 |
| 3294.9(4) | $4^+$ | 4 | 0.22 | | | | | | 4 | 36(7) | | | 85Fu10 |
| 3344.8(3) | $3^+$ | 2+3 | | | | | | | | | | | |
| 3437.4(8) | ⟨2,$4^+$⟩ | | | | | | | | | | | | |
| 3793.9(11) | 5 | | | | | | | | | | | | |
| 3833.2(4) | $4^+$ | 4 | 0.37 | | | 4 | 25(5) | | 4 | 13.0(26) | ⟨4⟩ | 0.003 | 85Fu10 |
| 3841.0(11) | | | | | | | | | | | | | |
| 4031.7(5) | $4^+$ | | | | | | | | 4 | 25(5) | | | 80Or04 |
| 4047.7(4) | $4^+$ | 4 | 0.14 | | | | | | | | | | 85Fu10 |
| 4071.6(8) | | ⟨5⟩ | | | | | | | | | | | |
| 4099.8(11) | $4^+$ | | | | | | | | | | | | |
| 4103.5(11) | | | | | | | | | | | | | |
| 4267.8(4) | $4^+$ | 4 | 0.31 | | | | | | 4 | 8.4(17) | | | 85Fu10 |
| 4290.8(7) | $0^+$ | 0 | 0.15 | | 110(10) | 0 | 140(15) | | | | | | 85Fu10 |
| 4578.5(9) | $2^+$ | 2 | 0.17 | | 70(10) | 2 | 75(15) | | | | | | 85Fu10 |

(continued) **$^{54}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ (p,p′) | $\beta R$ $fm$ | $\sigma$ (p,p′) μb/sr | $\sigma$ ($\tau$,n) μb/sr | $L$ ($\tau$,n) | $\sigma$ ($\tau$,n) μb/sr | $\sigma$ (p,t) μb/sr | $L$ (p,t) | $\sigma$ (p,t) $\mu b$ | $L$ (d,$^6$Li) | $S_\alpha$ (d,$^6$Li) | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4655.8(7) | ⟨0$^+$⟩ | ⟨0⟩ | | | | | | | | | | | |
| 4696(3) | | | | | | | | | | | | | |
| 4700.1(9) | | | | | | | | | | | | | |
| 4781.9(6) | 3$^-$ | 3 | 0.46 | | | | | | ⟨3⟩ | 5.1(10) | ⟨3⟩ | 0.02 | 84Um04 |
| 4948.7(8) | 4$^+$ | 4 | 0.16 | | | | | | | | | | 85Fu10 |
| 5046.3(6) | 5$^-$,6$^+$ | ⟨5,6⟩ | | | | | | | | | | | |
| 5080(4) | ⟨2$^+$,1⟩ | | | | | | | | | | | | |
| 5145(6) | | 3 | 0.079 | | | | | | | | | | 85Fu10 |
| 5233(10) | | 4 | 0.14 | | | | 84(10) | | | 34(7) | | | 85Fu10 |
| 5248(6) | | | | | | | | | | | | | |
| 5280.8(7) | 6$^+$ | 5,6 | | | | | | | | | | | |
| 5313(10) | | | | | | | | | | | | | |
| 5325(10) | | | | | | | | | | | | | |
| 5392(6) | 2$^+$ | | | | 80(10) | 2 | 36(7) | | | | | | 75Bo14 |
| 5404(10) | | | | | | | | | | | | | |
| 5432.6(12) | | | | | | | | | | | | | |
| 5453(7) | 1,2 | | | | | | | | | | | | |
| 5461.3(11) | | | | | | | | | | | | | |
| 5482.5(7) | ⟨3$^+$⟩ | | | | | | | | | | | | |
| 5506(6) | ⟨2$^+$⟩ | | | | | | | | | | | | |
| 5523(10) | | | | | | | | | | | | | |
| 5539(6) | 3$^-$ | 3 | 0.13 | | | | | | | | | | 85Fu10 |
| 5592(10) | | | | | | | | | | | | | |
| 5621(6) | ⟨3$^-$⟩ | | | | | | | | ⟨3⟩ | 10.2(20) | | | 80Or04 |
| 5657(5) | 4$^+$ | 4 | 0.12 | | | | | | | | | | 85Fu10 |
| 5666(10) | | | | | | | | | | | | | |
| 5703(5) | 4$^+$ | 4 | 0.14 | | | | | | | | | | 85Fu10 |
| 5787(10) | | | | | | | | | | | | | |
| 5809(7) | 2$^+$ | 2 | 0.083 | | | | | | | | | | 85Fu10 |
| 5828(7) | | | | | | | | | | | | | |
| 5875(10) | | | | | | | | | | | | | |
| 5907(5) | 3$^-$ | 3 | 0.052 | | | | | | | | | | 85Fu10 |
| 5919.4(11) | | | | | | | | | | | | | |
| 5928.0(6) | 7$^+$ | | | | | | | | | | | | |
| 5955(8) | 2$^+$ | 2 | 0.030 | | | | | | | | | | 85Fu10 |
| 6023(10) | | | | | | | | | | | | | |
| 6038(8) | 1,2 | | | | | | | | | | | | |
| 6057(5) | | | | | | | | | | | | | |
| 6100(10) | | | | | | | | | | | | | |
| 6128.6(6) | 1 | | | | | | | | | | | | |
| 6156(10) | | | | | | | | | | | | | |
| 6192(5) | 2$^+$ | | | | | | | | | | | | |
| 6212(10) | | | | | | | | | | | | | |
| 6238(10) | | | | | | | | | | | | | |
| 6259(5) | | | | | | | | | | | | | |

(continued) **$^{54}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ (p,p′) | $\beta R$ $fm$ | $\sigma$ (p,p′) $\mu$b/sr | $\sigma$ ($\tau$,n) $\mu$b/sr | $L$ ($\tau$,n) | $\sigma$ ($\tau$,n) $\mu$b/sr | $\sigma$ (p,t) $\mu$b/sr | $L$ (p,t) | $\sigma$ (p,t) $\mu b$ | $L$ (d,$^6$Li) | $S_\alpha$ (d,$^6$Li) | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6297.9(11) | $\langle 7^+ \rangle$ | | | | | | | | | | | | |
| 6341(5) | $3^-$ | 3 | 0.45 | | | | | | | | | | 85Fu10 |
| 6380.9(6) | $8^+$ | | | | 70(10) | | | | | | | | 72Ev02 |
| 6400(10) | $0^+$ | $\langle 0 \rangle$ | 0.16 | | 170(20) | 0 | 360(30) | | | | | | 85Fu10 |
| 6401(10) | $3^-$ | | | | | | | | | | | | |
| 6429(5) | $2^+$ | 2 | 0.20 | | | | | | | | | | 85Fu10 |
| 6442(10) | | | | | | | | | | | | | |
| 6484(5) | $4^+$ | 4 | 0.15 | | | | | | | | | | 85Fu10 |
| 6526.9(6) | $10^+$ | | | | | | | | | | | | |
| 6551.4(10) | | | | | | | | | | | | | |
| 6563(5) | $\langle 1^- \rangle$ | | | | | | | | | | | | |
| 6594(10) | | | | | | | | | | | | | |
| 6607(5) | $4^+$ | 4 | 0.11 | | | | | | | | | | 85Fu10 |
| 6648(10) | | | | | | | | | | | | | |
| 6663(10) | | | | | | | | | | | | | |
| 6670(5) | $4^+$ | 4 | 0.11 | | | | | | | | | | 85Fu10 |
| 6710(10) | $3^-$ | | | | | | | | 3 | 38(8) | | | 80Or04 |
| 6724.3(6) | $9^+$ | | | | | | | | | | | | |
| 6749(5) | $3^-$ | 3 | 0.052 | | | | | | | | | | 85Fu10 |
| 6774(5) | $1^-$ | 1 | | | | | | | | | | | |
| 6804(10) | | | | | | | | | | | | | |
| 6821(5) | $5^-$,$6^+$ | | | | | | | | | | | | |
| 6836(10) | | | | | | | | | | | | | |
| 6865.0(6) | $8^+$ | | | | | | | | | | | | |
| 6881(5) | $4^+$ | 4 | 0.11 | | | | | | | | | | 85Fu10 |
| 6910(20) | | | | | | | | | | | | | |
| 6951(5) | | 3 | 0.079 | | | | | | | 18(4) | | | 85Fu10 |
| 7011(10) | $3^-$ | 3 | 0.17 | | | | | | | | | | 85Fu10 |
| 7040(10) | | | | | | | | | | | | | |
| 7076.0(10) | | | | | | | | | | | | | |
| 7110(20) | $\langle 2^+,3^- \rangle$ | | | | | | | | | | | | |
| 7128(10) | $6^+$ | | | | | | | | | | | | |
| 7155(10) | | | | | | | | | | | | | |
| 7180(10) | $\langle 1 \rangle$ | | | | | | | | | | | | |
| 7200(30) | $4^+$ | | | | | | | | | | | | |
| 7260(20) | $3^-$ | 3 | 0.31 | | | | | | | | | | 85Fu10 |
| 7310(20) | $\langle 2^+,3^- \rangle$ | | | | | | | | | | | | |
| 7352.2(6) | $9^+$ | | | | | | | | | | | | |
| 7377(10) | $2^+$ | 2 | 0.083 | | | | | | | | | | 85Fu10 |
| 7442(10) | | | | | | | | | | | | | |
| 7486(10) | $3^-$ | 3 | 0.081 | | | | | | | | | | 85Fu10 |
| 7504.3(6) | $10^+$ | | | | | | | | | | | | |
| 7550(20) | $\langle 2^+ \rangle$ | | | | | | | | | | | | |
| 7560(20) | $0^+$ | | | | 40(10) | 0 | 76(5) | | | | | | 75Bo14 |
| 7566.9(15) | | | | | | | | | | | | | |

(continued) **$^{54}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ (p,p′) | $\beta R$ $fm$ | $\sigma$ (p,p′) $\mu$b/sr | $\sigma$ ($\tau$,n) $\mu$b/sr | $L$ ($\tau$,n) | $\sigma$ ($\tau$,n) $\mu$b/sr | $\sigma$ (p,t) $\mu$b/sr | $L$ (p,t) | $\sigma$ (p,t) $\mu b$ | $L$ (d,$^6$Li) | $S_\alpha$ (d,$^6$Li) | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7580(25) | $2^+$ | | | | | | | | 2 | 30(6) | | | 80Or04 |
| 7603(10) | $3^-$ | 3 | 0.13 | | | | | | | | | | 85Fu10 |
| 7644(10) | $3^-$ | 3 | 0.11 | | | | | | | | | | 85Fu10 |
| 7674(10) | | 4 | 0.092 | | | | | | | | | | 85Fu10 |
| 7760(20) | $\langle 2^+ \rangle$ | | | | | | | | | | | | |
| 7791(10) | | 3 | 0.11 | | | | | | | | | | 85Fu10 |
| 7859(10) | | 3 | 0.088 | | | | | | | | | | 85Fu10 |
| 7905(10) | | | | | | | | | | | | | |
| 7938(10) | $1^+$ | 0 | | 310* | | | | | | | | | 83Dj05 |
| 7940(20) | $3^-$ | | | | | 3 | 60(5) | | | | | | 75Bo14 |
| 8005(10) | $3^-$ | 3 | 0.21 | | | | | | | | | | 85Fu10 |
| 8019.5(7) | $11^+$ | | | | | | | | | | | | |
| 8114(10) | $1^+$ | 0 | | 160 | | | | | | | | | 83Dj05 |
| 8179(10) | | 0 | | | | | | | | | | | |
| 8225(10) | | | | <50 | | | | | | | | | 83Dj05 |
| 8298(10) | $\langle 2^+ \rangle$ | | | | | | | | | | | | |
| 8320.0(13) | $8^-$ | | | | | | | | | | | | |
| 8334(10) | $1^+$ | | | 140 | | | | | | | | | 83Dj05 |
| 8374.9(12) | $\langle 10^+ \rangle$ | | | | | | | | | | | | |
| 8410(10) | | | | | | | | | | | | | |
| 8440(10) | | 3 | 0.17 | | | | | | | | | | 85Fu10 |
| 8450(20) | $1^+$ | | | 120 | 110(10) | 0 | 360(20) | | | | | | 75Bo14 |
| 8465(10) | | 3 | 0.19 | | | | | | | | | | 85Fu10 |
| 8521(10) | $5^-$,$6^+$ | | | | | | | | | | | | |
| 8560(10) | $\langle 1,2^- \rangle$ | | | | | | | | | | | | |
| 8578.5(7) | $\langle 10^+ \rangle$ | | | | | | | | | | | | |
| 8610(10) | $\langle 2^- \rangle$ | | | | | | | | | | | | |
| 8633(10) | $1^-$ | | | | | | | | | | | | |
| 8666(10) | | 4 | 0.13 | | | | | | | | | | 85Fu10 |
| 8680(10) | $\langle 2 \rangle$ | | | | | | | | | | | | |
| 8740(10) | | | | | | | | | | | | | |
| 8808.7(7) | $11^+$ | | | | | | | | | | | | |
| 8850(10) | $1^+$ | 0 | | 300 | 190(20) | | | | | | | | 83Dj05 |
| 8886(10) | $3^-$ | 3 | 0.092 | | | | | | | | | | 85Fu10 |
| 8930(10) | $2^-$ | | | | | | | | | | | | |
| 8950(10) | $8^-$ | | | | | | | | | | | | |
| 8952(10) | $3^-$ | 3 | 0.13 | | | | | | | | | | 85Fu10 |
| 8981(10) | $1^+$ | 0 | | 220 | | | | | | | | | 83Dj05 |
| 9062(10) | $1^+$ | 0 | | 240 | | | | | | | | | 83Dj05 |
| 9112(10) | $3^-$ | 3 | 0.13 | | | | | | | | | | 85Fu10 |
| 9124.2(12) | | | | | | | | | | | | | |
| 9140(10) | $1^+$ | | | 320 | | | | | | | | | 83Dj05 |
| 9150(10) | $3^-$ | 3 | 0.10 | | | | | | | | | | 85Fu10 |
| 9243(10) | | 0 | | | | | | | | | | | |
| 9295(20) | $1^+$ | | | 110 | | | | | | | | | 83Dj05 |

(continued) **$^{54}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ (p,p′) | $\beta R$ $fm$ | $\sigma$ (p,p′) $\mu$b/sr | $\sigma$ ($\tau$,n) $\mu$b/sr | $L$ ($\tau$,n) | $\sigma$ ($\tau$,n) $\mu$b/sr | $\sigma$ (p,t) $\mu$b/sr | $L$ (p,t) | $\sigma$ (p,t) $\mu b$ | $L$ (d,$^6$Li) | $S_\alpha$ (d,$^6$Li) | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9353(10) | $3^-$ | 3 | 0.079 | | | | | | | | | | 85Fu10 |
| 9402(10) | $3^-$ | 3 | 0.10 | | | | | | | | | | 85Fu10 |
| 9410(20) | $1^+$ | | | 290 | | | | | | | | | 83Dj05 |
| 9450(10) | 1 | | | | | | | | | | | | |
| 9506(10) | $3^-$ | 3 | 0.10 | | | | | | | | | | 85Fu10 |
| 9530(10) | $1^+$ | | | 120 | | | | | | | | | 83Dj05 |
| 9568(10) | | | | | | | | | | | | | |
| 9610(30) | | | | | | | | | | | | | |
| 9640(10) | | | | | | | | | | | | | |
| 9671(10) | $3^-$ | 3 | 0.11 | | | | | | | | | | 85Fu10 |
| 9716(10) | | | | | | | | | | | | | |
| 9747(10) | $3^-$ | 3 | 0.13 | | | | | | | | | | 85Fu10 |
| 9810(10) | | | | | | | | | | | | | |
| 9845.9(7) | $12^+$ | | | | | | | | | | | | |
| 9910(10) | | | | | | | | | | | | | |
| 9940(20) | $1^+$ | | | 170 | | | | | | | | | 83Dj05 |
| 9974(10) | $8^-$ | | | | | | | | | | | | |
| 9984(10) | | 3 | 0.92 | | | | | | | | | | 85Fu10 |
| 9996.1(11) | | | | | 130(20) | 2 | 80(7) | | | | | | 75Bo14 |
| 10027(10) | $\langle 3^- \rangle$ | 3 | 0.074 | | | | | | | | | | 85Fu10 |
| 10050(10) | $1^+$ | | | 480 | | | | | | | | | 83Dj05 |
| 10083(10) | $\langle 3^- \rangle$ | 3 | 0.092 | | | | | | | | | | 85Fu10 |
| 10131.6(9) | $\langle 12^+ \rangle$ | | | | | | | | | | | | |
| 10137(10) | $2^+$ | 2 | 0.079 | | | | | | | | | | 85Fu10 |
| 10180(10) | $1^+$ | | | 580 | | | | | | | | | 83Dj05 |
| 10213(10) | | | | incl | | | | | | | | | 83Dj05 |
| 10250(20) | $0^+$ | | | | 110(20) | 0 | 170(30) | | | | | | 75Bo14 |
| 10290(10) | | | | | | | | | | | | | |
| 10342(10) | $4^+$ | 4 | 0.092 | | | | | | | | | | 85Fu10 |
| 10380(20) | | | | | | | | | | | | | |
| 10450(20) | | | | | | | | | | | | | |
| 10535(10) | $1^+$ | | | 660 | | | | | | | | | 83Dj05 |
| 10542.7(8) | $\langle 11 \rangle$ | | | | | | | | | | | | |
| 10586(10) | | | | | | | | | | | | | |
| 10630(20) | | | | | | | | | | | | | |
| 10660(10) | $\langle 2^- \rangle$ | | | | | | | | | | | | |
| 10677(10) | $8^-$ | | | | | | | | | | | | |
| 10700(10) | $0^+$ | | | | 360(40) | 0 | 480(30) | | | | | | 75Bo14 |
| 10740(20) | | | | | | | | | | | | | |
| 10780(20) | | | | | | | | | | | | | |
| 10820(10) | | | | | | | | | | | | | |
| 10870(20) | | | | | | | | | | | | | |
| 10910(20) | | | | | | | | | | | | | |
| 11010(10) | $1^+$ | | | 130 | | | | | | | | | 83Dj05 |
| 11050(10) | | | | | | | | | | | | | |

(continued) **$^{54}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ (p,p′) | $\beta R$ $fm$ | $\sigma$ (p,p′) $\mu$b/sr | $\sigma$ ($\tau$,n) $\mu$b/sr | $L$ ($\tau$,n) | $\sigma$ ($\tau$,n) $\mu$b/sr | $\sigma$ (p,t) $\mu$b/sr | $L$ (p,t) | $\sigma$ (p,t) $\mu b$ | $L$ (d,$^6$Li) | $S_\alpha$ (d,$^6$Li) | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11094.0(7) | $13^+$ | | | | | | | | | | | | |
| 11114.2(8) | $\langle 12^+ \rangle$ | | | | | | | | | | | | |
| 11120(10) | $1^+$ | | | 180 | | | | | | | | | 83Dj05 |
| 11230(10) | | | | | | | | | | | | | |
| 11280(10) | | | | | | | | | | | | | |
| 11320(20) | $1^+$ | | | 170 | | | | | | | | | 83Dj05 |
| 11360(10) | | | | | | | | | | | | | |
| 11440(20) | $2^+$ | | | | 200(20) | 2 | 100(20) | | | | | | 72Ev02 |
| 11520(10) | $1^+$ | | | 340 | | | | | | | | | 83Dj05 |
| 11620(30) | | | | | | | | | | | | | |
| 11710(20) | | | | | | | | | | | | | |
| 11750(10) | $1^+$ | | | 230 | | | | | | | | | 83Dj05 |
| 11790(10) | | | | | | | | | | | | | |
| 11850(30) | $2^+$ | | | | | 2 | 90(30) | | | | | | 75Bo14 |
| 11920(20) | $1^+$ | | | 120 | | | | | | | | | 83Dj05 |
| 11950(20) | $1^+$ | | | 140 | | | | | | | | | 83Dj05 |
| 12040(20) | $0^+$ | | | | | 0 | 110(10) | | | | | | 75Bo14 |
| 12043.6(9) | $\langle 13 \rangle$ | | | | | | | | | | | | |
| 12100(50) | $2^+$ | | | | | 2 | 26(5) | | | | | | 75Bo14 |
| 12314.7(8) | $14^+$ | | | | | | | | | | | | |
| 12954.0(12) | $\langle 14^+ \rangle$ | | | | | | | | | | | | |
| 13263(10) | $8^-$ | | | | | | | | | | | | |
| 13358.6(14) | | | | | | | | | | | | | |
| 13520(20) | $0^+$ | | | | | 0 | 78(10) | | | | | | 75Bo14 |
| 13730(30) | $4^+$ | | | | | 4 | 160(15) | | | | | | 75Bo14 |
| 13900(20) | $1^+$ | | | 120 | | | | | | | | | 83Dj05 |
| 14050(50) | | | | | | | | | | | | | |
| 14389.0(14) | | | | | | | | | | | | | |
| 14540(30) | | | | | | | | | | | | | |
| 14590(30) | | | | | | | | | | | | | |
| 14700(30) | | | | | | | | | | | | | |
| 14730(30) | | | | | | | | | | | | | |
| 14850(30) | $2^+$ | | | | | 2 | 74(15) | | | | | | 75Bo14 |
| 14870(20) | $0^+$ | | | | | 0 | 280(30) | | | | | | 75Bo14 |
| 15062.6(25) | | | | | | | | | | | | | |
| | | | 85Fu10 | 83Dj05 | 72Ev02 | | 75Bo14 | 77Su01 | | 80Or04 | | 84Um04 | Ref. |

Additional data on this isotope can be found in [99Ru01, 89Fu07, 80Or04, 75Al05, 70Ma46, 64Sp03, 63As03].

*Abundance:* 5.845(35) %.

* Inelastic scattering cross section measured at 4° [83Dj05].

Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [87Wa04, 93Hu04]. Part 2

**$^{54}_{26}$Fe**

| $E^*$ | $J^\pi$ | $T_{1/2}$ or | Ref. | Branching ratios in percentage | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | $E_f^*$: | 0.0 | 1408 | 2538 | 2949 | 2959 | 3166 | 3295 | 3345 | 4031.7 |
| [keV] | | $\Gamma_{cm}$ | | $J_f^\pi$: | $0^+$ | $2^+$ | $4^+$ | $6^+$ | $2^+$ | $2^+$ | $4^+$ | $3^+$ | $4^+$ |
| 0.0 | $0^+$ | Stable | 75Bo14 | | | | | | | | | | |
| 1408.20(19) | $2^+$ | 0.80(3) ps | 85Fu10 | | 100 | | | | | | | | |
| 2538.2(3) | $4^+$ | 4.0(8) ps | 85Fu10 | | | 100 | | | | | | | |
| 2561.3(4) | $0^+$ | ≥1.4 ps | 85Fu10 | | x | 100 | | | | | | | |
| 2949.3(5) | $6^+$ | 1.215(15) ns | 75Bo14 | | | | 100 | | | | | | |
| 2959.0(5) | $2^+$ | 0.052(6) ps | 85Fu10 | | 55(3) | 45(3) | | | | | | | |
| 3166.0(5) | $2^+$ | 0.17(+4-3) ps | 85Fu10 | | 81(3) | 19(3) | | | | | | | |
| 3294.9(4) | $4^+$ | ≥2.1 ps | 85Fu10 | | | 22.6(13) | 77(6) | | | | | | |
| 3344.8(3) | $3^+$ | ≥2.1 ps | | | | 57(3) | 43(3) | | | | | | |
| 3437.4(8) | $\langle 2,4^+ \rangle$ | | | | | | 17 | 83 | | | | | |
| 3793.9(11) | 5 | | | | | | | 100 | | | | | |
| 3833.2(4) | $4^+$ | 0.062(10) ps | 85Fu10 | | | 89(3) | 9(3) | | | | 2.0 | | |
| 3841.0(11) | | | | | | 100 | | | | | | | |
| 4031.7(5) | $4^+$ | ≥0.7 ps | 80Or04 | | | | 17(3) | | | | 83(6) | | |
| 4047.7(4) | $4^+$ | 0.30(+23-10) ps | 85Fu10 | | | 17 | 8 | | 3 | | | 72 | |
| 4071.6(8) | | 0.058(17) ps | | | | 92(3) | 8(3) | | | | | | |
| 4099.8(11) | $4^+$ | | | | | | | | | | 100 | | |
| 4103.5(11) | | | | | | | | 100 | | | | | |
| 4267.8(4) | $4^+$ | 0.082(+23-17) ps | 85Fu10 | | | 20 | 80 | | | | | | |
| 4290.8(7) | $0^+$ | 0.055(+17-14) ps | 85Fu10 | | x | 100 | | | | | | | |
| 4578.5(9) | $2^+$ | ≤0.007 ps | 85Fu10 | | 30(10) | 70(10) | | | | | | | |
| 4655.8(7) | $\langle 0^+ \rangle$ | | | | | | | | | | 89(18) | | |
| 4696(3) | | | | | | 100 | | | | | | | |
| 4700.1(9) | | | | | | 15.0 | 40.0 | | | | | 45.0 | |
| 4781.9(6) | $3^-$ | 0.033(11) ps | 84Um04 | | | 54(7) | 17(4) | | | | 18(4) | 11(3) | |
| 4948.7(8) | $4^+$ | 0.029(10) ps | 85Fu10 | | | 35(8) | 55(5) | 10(3) | | | | | |
| 5046.3(6) | $5^-,6^+$ | | | | | | | 83(12) | | | | | 17(4) |
| 5080(4) | $\langle 2^+,1 \rangle$ | | | | 30 | 70 | | | | | | | |
| 5145(6) | | | 85Fu10 | | | 100 | | | | | | | |
| 5233(10) | | | 85Fu10 | | | | | | | | | | |
| 5248(6) | | | | | | 100 | | | | | | | |
| 5280.8(7) | $6^+$ | | | | | x | | 15(5) | | | 40(10) | | 35(8) |
| 5313(10) | | | | | | | | | | | | | |
| 5325(10) | | | | | | | | | | | | | |
| 5392(6) | $2^+$ | | 75Bo14 | | | 100 | | | | | | | |
| 5404(10) | | | | | | | | | | | | | |
| 5432.6(12) | | | | | | | | | | | | | |
| 5453(7) | 1,2 | | | | 100 | | | | | | | | |
| 5461.3(11) | | | | | | | | | | | 100 | | |
| 5482.5(7) | $\langle 3^+ \rangle$ | | | | | x | 89(13) | | | | | | |
| 5506(6) | $\langle 2^+ \rangle$ | | | | | 100 | | | | | | | |
| 5523(10) | | | | | | | | | | | | | |
| 5539(6) | $3^-$ | | 85Fu10 | | | x | | | | | | | |
| 5592(10) | | | | | | | | | | | | | |
| 5621(6) | $\langle 3^- \rangle$ | | 80Or04 | | | 100 | | | | | | | |

(continued) **$^{54}_{26}$Fe**

| $E^*$ | $J^\pi$ | $T_{1/2}$ or | Ref. | Branching ratios in percentage | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | $E_f^*$: | 0.0 | 1408 | 2538 | 2949 | 2959 | 3166 | 3295 | 3345 | 4031.7 |
| [keV] | | $\Gamma_{cm}$ | | $J_f^\pi$: | $0^+$ | $2^+$ | $4^+$ | $6^+$ | $2^+$ | $2^+$ | $4^+$ | $3^+$ | $4^+$ |
| 5657(5) | $4^+$ | | 85Fu10 | | | | | | | | | | |
| 5666(10) | | | | | | | | | | | | | |
| 5703(5) | $4^+$ | | 85Fu10 | | | | | | | | | | |
| 5787(10) | | | | | | | | | | | | | |
| 5809(7) | $2^+$ | | 85Fu10 | | | 100 | | | | | | | |
| 5828(7) | | | | | | 100 | | | | | | | |
| 5875(10) | | | | | | | | | | | | | |
| 5907(5) | $3^-$ | | 85Fu10 | | | | | | | | | | |
| 5919.4(11) | | | | | | | | 100 | | | | | |
| 5928.0(6) | $7^+$ | | | | | | | 80(7) | | | | | 3.6(14) |
| 5955(8) | $2^+$ | | 85Fu10 | | 100 | | | | | | | | |
| 6023(10) | | | | | | | | | | | | | |
| 6038(8) | 1,2 | | | | 100 | | | | | | | | |
| 6057(5) | | | | | | | | | | | | | |
| 6100(10) | | | | | | | | | | | | | |
| 6128.6(6) | 1 | 16.9(25) fs | | | 93(1) | 2.3(6) | | | | 2.5(4) | | | |
| 6156(10) | | | | | | | | | | | | | |
| 6192(5) | $2^+$ | | | | | | | | | | | | |
| 6212(10) | | | | | | | | | | | | | |
| 6238(10) | | | | | | | | | | | | | |
| 6259(5) | | | | | | | | | | | | | |
| 6297.9(11) | $\langle 7^+ \rangle$ | | | | | | | 100 | | | | | |
| 6341(5) | $3^-$ | | 85Fu10 | | | | | | | | | | |
| 6380.9(6) | $8^+$ | 114(+28-21) fs | 72Ev02 | | | | | 100 | | | | | |
| 6400(10) | $0^+$ | | 85Fu10 | | | | | | | | | | |
| 6401(10) | $3^-$ | | | | | | | | | | | | |
| 6429(5) | $2^+$ | | 85Fu10 | | | | | | | | | | |
| 6442(10) | | | | | | | | | | | | | |
| 6484(5) | $4^+$ | | 85Fu10 | | | | | | | | | | |
| 6526.9(6) | $10^+$ | 364(7) ns | | | | | | 1.9(4) | | | | | |
| 6551.4(10) | | | | | | | | 71(29) | | | | | |
| 6563(5) | $\langle 1^- \rangle$ | | | | | | | | | | | | |
| 6594(10) | | | | | | | | | | | | | |
| 6607(5) | $4^+$ | | 85Fu10 | | | | | | | | | | |
| 6648(10) | | | | | | | | | | | | | |
| 6663(10) | | | | | | | | | | | | | |
| 6670(5) | $4^+$ | | 85Fu10 | | | | | | | | | | |
| 6710(10) | $3^-$ | | 80Or04 | | | | | | | | | | |
| 6724.3(6) | $9^+$ | ≈41 ps | | | | | | | | | | | |
| 6749(5) | $3^-$ | | 85Fu10 | | | | | | | | | | |
| 6774(5) | $1^-$ | | | | | | | | | | | | |
| 6804(10) | | | | | | | | | | | | | |
| 6821(5) | $5^-$,$6^+$ | | | | | | | | | | | | |
| 6836(10) | | | | | | | | | | | | | |
| 6865.0(6) | $8^+$ | | | | | | | 40(4) | | | | | |

(continued) **$^{54}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. | Branching ratios in percentage | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | $E_f^*$: | 0.0 | 1408 | 2538 | 2949 | 2959 | 3166 | 3295 | 3345 | 4031.7 |
| | | | $J_f^\pi$: | $0^+$ | $2^+$ | $4^+$ | $6^+$ | $2^+$ | $2^+$ | $4^+$ | $3^+$ | $4^+$ |
| 6881(5) | $4^+$ | | 85Fu10 | | | | | | | | | |
| 6910(20) | | | | | | | | | | | | |
| 6951(5) | | | 85Fu10 | | | | | | | | | |
| 7011(10) | $3^-$ | | 85Fu10 | | | | | | | | | |
| 7040(10) | | | | | | | | | | | | |
| 7076.0(10) | | | | | | | 56(12) | | | | | |
| 7110(20) | $\langle 2^+,3^-\rangle$ | | | | | | | | | | | |
| 7128(10) | $6^+$ | | | | | | | | | | | |
| 7155(10) | | | | | | | | | | | | |
| 7180(10) | $\langle 1\rangle$ | | | | | | | | | | | |
| 7200(30) | $4^+$ | | | | | | | | | | | |
| 7260(20) | $3^-$ | | 85Fu10 | | | | | | | | | |
| 7310(20) | $\langle 2^+,3^-\rangle$ | | | | | | | | | | | |
| 7352.2(6) | $9^+$ | | | | | | | | | | | |
| 7377(10) | $2^+$ | | 85Fu10 | | | | | | | | | |
| 7442(10) | | | | | | | | | | | | |
| 7486(10) | $3^-$ | | 85Fu10 | | | | | | | | | |
| 7504.3(6) | $10^+$ | | | | | | | | | | | |
| 7550(20) | $\langle 2^+\rangle$ | | | | | | | | | | | |
| 7560(20) | $0^+$ | | 75Bo14 | | | | | | | | | |
| 7566.9(15) | | | | | | | 100 | | | | | |
| 7580(25) | $2^+$ | | 80Or04 | | | | | | | | | |
| 7603(10) | $3^-$ | | 85Fu10 | | | | | | | | | |
| 7644(10) | $3^-$ | | 85Fu10 | | | | | | | | | |
| 7674(10) | | | 85Fu10 | | | | | | | | | |
| 7760(20) | $\langle 2^+\rangle$ | | | | | | | | | | | |
| 7791(10) | | | 85Fu10 | | | | | | | | | |
| 7859(10) | | | 85Fu10 | | | | | | | | | |
| 7905(10) | | | | | | | | | | | | |
| 7938(10) | $1^+$ | | 83Dj05 | | | | | | | | | |
| 7940(20) | $3^-$ | | 75Bo14 | | | | | | | | | |
| 8005(10) | $3^-$ | | 85Fu10 | | | | | | | | | |
| 8019.5(7) | $11^+$ | | | | | | | | | | | |
| 8114(10) | $1^+$ | | 83Dj05 | | | | | | | | | |
| 8179(10) | | | | | | | | | | | | |
| 8225(10) | | | 83Dj05 | | | | | | | | | |
| 8298(10) | $\langle 2^+\rangle$ | | | | | | | | | | | |
| 8320.0(13) | $8^-$ | | | | | | | | | | | |
| 8334(10) | $1^+$ | | 83Dj05 | | | | | | | | | |
| 8374.9(12) | $\langle 10^+\rangle$ | | | | | | | | | | | |
| 8410(10) | | | | | | | | | | | | |
| 8440(10) | | | 85Fu10 | | | | | | | | | |
| 8450(20) | $1^+$ | | 75Bo14 | | | | | | | | | |
| 8465(10) | | | 85Fu10 | | | | | | | | | |
| 8521(10) | $5^-,6^+$ | | | | | | | | | | | |

(continued) **$^{54}_{26}$Fe**

| $E^*$ | $J^\pi$ | $T_{1/2}$ or | Ref. | Branching ratios in percentage | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | $E_f^*$: | 0.0 | 1408 | 2538 | 2949 | 2959 | 3166 | 3295 | 3345 | 4031.7 |
| [keV] | | $\Gamma_{cm}$ | | $J_f^\pi$: | $0^+$ | $2^+$ | $4^+$ | $6^+$ | $2^+$ | $2^+$ | $4^+$ | $3^+$ | $4^+$ |
| 8560(10) | $\langle 1,2^- \rangle$ | | | | | | | | | | | | |
| 8578.5(7) | $\langle 10^+ \rangle$ | | | | | | | | | | | | |
| 8610(10) | $\langle 2^- \rangle$ | | | | | | | | | | | | |
| 8633(10) | $1^-$ | | | | | | | | | | | | |
| 8666(10) | | | 85Fu10 | | | | | | | | | | |
| 8680(10) | $\langle 2 \rangle$ | | | | | | | | | | | | |
| 8740(10) | | | | | | | | | | | | | |
| 8808.7(7) | $11^+$ | | | | | | | | | | | | |
| 8850(10) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 8886(10) | $3^-$ | | 85Fu10 | | | | | | | | | | |
| 8930(10) | $2^-$ | | | | | | | | | | | | |
| 8950(10) | $8^-$ | | | | | | | | | | | | |
| 8952(10) | $3^-$ | | 85Fu10 | | | | | | | | | | |
| 8981(10) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 9062(10) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 9112(10) | $3^-$ | | 85Fu10 | | | | | | | | | | |
| 9124.2(12) | | | | | | | | | | | | | |
| 9140(10) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 9150(10) | $3^-$ | | 85Fu10 | | | | | | | | | | |
| 9243(10) | | | | | | | | | | | | | |
| 9295(20) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 9353(10) | $3^-$ | | 85Fu10 | | | | | | | | | | |
| 9402(10) | $3^-$ | | 85Fu10 | | | | | | | | | | |
| 9410(20) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 9450(10) | 1 | | | | | | | | | | | | |
| 9506(10) | $3^-$ | | 85Fu10 | | | | | | | | | | |
| 9530(10) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 9568(10) | | | | | | | | | | | | | |
| 9610(30) | | | | | | | | | | | | | |
| 9640(10) | | | | | | | | | | | | | |
| 9671(10) | $3^-$ | | 85Fu10 | | | | | | | | | | |
| 9716(10) | | | | | | | | | | | | | |
| 9747(10) | $3^-$ | | 85Fu10 | | | | | | | | | | |
| 9810(10) | | | | | | | | | | | | | |
| 9845.9(7) | $12^+$ | | | | | | | | | | | | |
| 9910(10) | | | | | | | | | | | | | |
| 9940(20) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 9974(10) | $8^-$ | | | | | | | | | | | | |
| 9984(10) | | | 85Fu10 | | | | | | | | | | |
| 9996.1(11) | | | 75Bo14 | | | | | | | | | | |
| 10027(10) | $\langle 3^- \rangle$ | | 85Fu10 | | | | | | | | | | |
| 10050(10) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 10083(10) | $\langle 3^- \rangle$ | | 85Fu10 | | | | | | | | | | |
| 10131.6(9) | $\langle 12^+ \rangle$ | | | | | | | | | | | | |
| 10137(10) | $2^+$ | | 85Fu10 | | | | | | | | | | |

(continued) **$^{54}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. | Branching ratios in percentage | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | $E_f^*$: | 0.0 | 1408 | 2538 | 2949 | 2959 | 3166 | 3295 | 3345 | 4031.7 |
| | | | | $J_f^\pi$: | $0^+$ | $2^+$ | $4^+$ | $6^+$ | $2^+$ | $2^+$ | $4^+$ | $3^+$ | $4^+$ |
| 10180(10) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 10213(10) | | | 83Dj05 | | | | | | | | | | |
| 10250(20) | $0^+$ | | 75Bo14 | | | | | | | | | | |
| 10290(10) | | | | | | | | | | | | | |
| 10342(10) | $4^+$ | | 85Fu10 | | | | | | | | | | |
| 10380(20) | | | | | | | | | | | | | |
| 10450(20) | | | | | | | | | | | | | |
| 10535(10) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 10542.7(8) | $\langle 11 \rangle$ | | | | | | | | | | | | |
| 10586(10) | | | | | | | | | | | | | |
| 10630(20) | | | | | | | | | | | | | |
| 10660(10) | $\langle 2^- \rangle$ | | | | | | | | | | | | |
| 10677(10) | $8^-$ | | | | | | | | | | | | |
| 10700(10) | $0^+$ | | 75Bo14 | | | | | | | | | | |
| 10740(20) | | | | | | | | | | | | | |
| 10780(20) | | | | | | | | | | | | | |
| 10820(10) | | | | | | | | | | | | | |
| 10870(20) | | | | | | | | | | | | | |
| 10910(20) | | | | | | | | | | | | | |
| 11010(10) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 11050(10) | | | | | | | | | | | | | |
| 11094.0(7) | $13^+$ | | | | | | | | | | | | |
| 11114.2(8) | $\langle 12^+ \rangle$ | | | | | | | | | | | | |
| 11120(10) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 11230(10) | | | | | | | | | | | | | |
| 11280(10) | | | | | | | | | | | | | |
| 11320(20) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 11360(10) | | | | | | | | | | | | | |
| 11440(20) | $2^+$ | | 72Ev02 | | | | | | | | | | |
| 11520(10) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 11620(30) | | | | | | | | | | | | | |
| 11710(20) | | | | | | | | | | | | | |
| 11750(10) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 11790(10) | | | | | | | | | | | | | |
| 11850(30) | $2^+$ | | 75Bo14 | | | | | | | | | | |
| 11920(20) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 11950(20) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 12040(20) | $0^+$ | | 75Bo14 | | | | | | | | | | |
| 12043.6(9) | $\langle 13 \rangle$ | | | | | | | | | | | | |
| 12100(50) | $2^+$ | | 75Bo14 | | | | | | | | | | |
| 12314.7(8) | $14^+$ | | | | | | | | | | | | |
| 12954.0(12) | $\langle 14^+ \rangle$ | | | | | | | | | | | | |
| 13263(10) | $8^-$ | | | | | | | | | | | | |
| 13358.6(14) | | | | | | | | | | | | | |
| 13520(20) | $0^+$ | | 75Bo14 | | | | | | | | | | |

(continued) **$^{54}_{26}$Fe**

| $E^*$ | $J^\pi$ | $T_{1/2}$ or | Ref. | Branching ratios in percentage | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | $E_f^*$: | 0.0 | 1408 | 2538 | 2949 | 2959 | 3166 | 3295 | 3345 | 4031.7 |
| [keV] | | $\Gamma_{cm}$ | | $J_f^\pi$: | $0^+$ | $2^+$ | $4^+$ | $6^+$ | $2^+$ | $2^+$ | $4^+$ | $3^+$ | $4^+$ |
| 13730(30) | $4^+$ | | 75Bo14 | | | | | | | | | | |
| 13900(20) | $1^+$ | | 83Dj05 | | | | | | | | | | |
| 14050(50) | | | | | | | | | | | | | |
| 14389.0(14) | | | | | | | | | | | | | |
| 14540(30) | | | | | | | | | | | | | |
| 14590(30) | | | | | | | | | | | | | |
| 14700(30) | | | | | | | | | | | | | |
| 14730(30) | | | | | | | | | | | | | |
| 14850(30) | $2^+$ | | 75Bo14 | | | | | | | | | | |
| 14870(20) | $0^+$ | | 75Bo14 | | | | | | | | | | |
| 15062.6(25) | | | | | | | | | | | | | |
| | | | Ref. | | | | | | | | | | |

Energy levels and branching ratios [87Wa04, 93Hu04]. Part 3 **$^{54}_{26}$Fe**

| $E^*$ | $J^\pi$ | | | | | Branching ratios in percentage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 4047.7 | 4290.8 | 4655.8 | 5046.3 | 5482.5 | 5928.0 | 6297.9 | 6380.9 | 6526.9 | 6551.4 |
| [keV] | | $J_f^\pi$: | $4^+$ | $0^+$ | $\langle 0^+ \rangle$ | $5^-$,$6^+$ | $\langle 3^+ \rangle$ | $7^+$ | $\langle 7^+ \rangle$ | $8^+$ | $10^+$ | |
| 4655.8(7) | $\langle 0^+ \rangle$ | | 11(4) | | | | | | | | | |
| 5280.8(7) | $6^+$ | | | | 10(2) | | | | | | | |
| 5432.6(12) | | | | | | 100 | | | | | | |
| 5482.5(7) | $\langle 3^+ \rangle$ | | 11(4) | | | | | | | | | |
| 5928.0(6) | $7^+$ | | | | | 16(2) | | | | | | |
| 6128.6(6) | 1 | | | 2.5(5) | | | | | | | | |
| 6526.9(6) | $10^+$ | | | | | | | | | 98(4) | | |
| 6551.4(10) | | | | | | | 29(14) | | | | | |
| 6724.3(6) | $9^+$ | | | | | | | 22(2) | | | 78(5) | |
| 6865.0(6) | $8^+$ | | | | | 11(3) | | 49(5) | | | | |
| 7076.0(10) | | | | | | | | 19(6) | 25(12) | | | |
| 7352.2(6) | $9^+$ | | | | | | | 35(5) | | 13(4) | | |
| 7504.3(6) | $10^+$ | | | | | | | | | | 13(2) | |
| 8019.5(7) | $11^+$ | | | | | | | | | | 100 | |
| 8320.0(13) | $8^-$ | | | | | | | | 44(22) | | | 44(22) |
| 8374.9(12) | $\langle 10^+ \rangle$ | | | | | | | | | 100 | | |
| 8808.7(7) | $11^+$ | | | | | | | | | | 40(8) | |
| 9845.9(7) | $12^+$ | | | | | | | | | | 30(3) | |
| 10542.7(8) | $\langle 11 \rangle$ | | | | | | | | | | 39(7) | |

Energy levels and branching ratios [87Wa04, 93Hu04]. Part 4 **$^{54}_{26}$Fe**

| $E^*$ | $J^\pi$ | | | | | | Branching ratios in percentage | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 6724.3 | 6865.0 | 7352.2 | 7504.3 | 7566.9 | 8019.5 | 8578.5 | 8808.7 | 9845.9 | 9996.1 |
| [keV] | | $J_f^\pi$: | $9^+$ | $8^+$ | $9^+$ | $10^+$ | | $11^+$ | $\langle 10^+\rangle$ | $11^+$ | $12^+$ | |
| 7352.2(6) | $9^+$ | | | 52(6) | | | | | | | | |
| 7504.3(6) | $10^+$ | | 87(5) | | | | | | | | | |
| 8320.0(13) | $8^-$ | | | | | | 11(44) | | | | | |
| 8578.5(7) | $\langle 10^+\rangle$ | | | | 84(12) | | | 16(4) | | | | |
| 8808.7(7) | $11^+$ | | | | | 56(7) | | 4.8(8) | | | | |
| 9124.2(12) | | | | | 100 | | | | | | | |
| 9845.9(7) | $12^+$ | | | | | 2.4(3) | | 55(3) | | 13(2) | | |
| 9996.1(11) | | | 50(16) | | | 50(16) | | | | | | |
| 10131.6(9) | $\langle 12^+\rangle$ | | | | | | | 31(6) | | 69(10) | | |
| 10542.7(8) | $\langle 11\rangle$ | | | | | 13(3) | | 13(3) | 10(3) | 26(1) | | |
| 11094.0(7) | $13^+$ | | | | | | | 8.1(8) | | | 92(3) | |
| 11114.2(8) | $\langle 12^+\rangle$ | | | | | | | 16(4) | | 27(6) | | 6(2) |

Energy levels and branching ratios [87Wa04, 93Hu04]. Part 5 **$^{54}_{26}$Fe**

| $E^*$ | $J^\pi$ | | | | | | Branching ratios in percentage | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 10131.6 | 10542.7 | 11094.0 | 11114.2 | 12043.6 | 12314.7 | 12954.0 | 13358.6 |
| [keV] | | $J_f^\pi$: | $\langle 12^+\rangle$ | $\langle 11\rangle$ | $13^+$ | $\langle 12^+\rangle$ | $\langle 13\rangle$ | $14^+$ | $\langle 14^+\rangle$ | |
| 11114.2(8) | $\langle 12^+\rangle$ | | | 51(4) | | | | | | |
| 12043.6(9) | $\langle 13\rangle$ | | | | | 100 | | | | |
| 12314.7(8) | $14^+$ | | 1.5(8) | | 99(8) | | | | | |
| 12954.0(12) | $\langle 14^+\rangle$ | | | | 100 | | | | | |
| 13358.6(14) | | | | | | | 100 | | | |
| 14389.0(14) | | | | | | | | 93(19) | 7(4) | |
| 15062.6(25) | | | | | | | | | | 100 |

Energy levels and branching ratios [91Hu07]. **$^{55}_{26}$Fe**

| $E^*$ | $2J^\pi$ | $L$ | $S'$ | $\sigma$ (d,p) | $S_N$ | $L$ | $S'$ | $C^2S'$ | $L$ | $C^2S$ | $L$ | $C^2S$ | $C^2S$ | $C^2S$ | $L$ | $C^2S$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| [keV] | | (d,p) | (d,p) | $\mu$b/sr | (d,p) | (d,p) | (d,p) | $(\alpha,\tau)$ | | (p,d) | | $(\tau,\alpha)$ | (p,d) | (d,t) | | $(\tau,\alpha)$ | |
| 0.0 | $3^-$ | 1 | 3.25 | 9300 | 0.73 | 1 | 3.1 | 2.7 | 1 | 0.69 | 1 | 0.63 | 1.22 | 0.67 | 1 | 0.28 | 89Po14 |
| 411.42(21) | $1^-$ | 1 | 1.20 | 3900 | 0.59 | 1 | 1.2 | 1.0 | 1 | 0.28 | 1 | 0.47 | 0.42 | 0.25 | 1 | 0.4* | 89Po14 |
| 931.29(13) | $5^-$ | 3 | 3.60 | 1000 | 0.69 | 3 | 3.9 | 3.9 | 3 | 0.33 | 3 | 0.43 | 0.75 | 0.35 | 3 | 1.7* | 80Ho18 |
| 1316.5(1) | $7^-$ | 3 | 0.329 | 130 | 0.05 | 3 | 0.36 | 0.8 | 3 | 0.41 | 3 | 0.62 | | 0.73 | 3 | 1.6 | 81Za04 |
| 1408.4(1) | $7^-$ | 3 | ≈0.14 | 80 | | 3 | 0.14 | 0.4 | 3 | 2.41 | 3 | 4.68 | 6.1 | 2.91 | | | 64Le10 |
| 1918.3(5) | $1^-$ | 1 | 0.255 | 600 | 0.07 | 1 | 0.20 | | | | | | | | | | 63Fu04 |
| 2015 | $1^-$,$3^-$ | | | | | | | 0.4 | | | | | | | | | 70Ro22 |
| 2051.7(4) | $3^-$ | 1 | 0.377 | 1400 | 0.08 | 1 | 0.35 | | | | | | | | | | 63Fu04 |

(continued) **$^{55}_{26}$Fe**

| $E^*$ [keV] | $2J^\pi$ | $L$ (d,p) | $S'$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S_N$ (d,p) | $L$ (d,p) | $S'$ (d,p) | $C^2S'$ $(\alpha,\tau)$ | $L$ | $C^2S$ (p,d) | $L$ | $C^2S$ $(\tau,\alpha)$ | $C^2S$ (p,d) | $C^2S$ (d,t) | $L$ | $C^2S$ $(\tau,\alpha)$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2144.0(3) | $5^-$ | 3 | 0.885 | 270 | 0.16 | 3 | 0.92 | 0.9 | | | 3 | 0.38 | | | 3 | 0.38 | 75We07 |
| 2220(25) | | | | | | | | | | | 3 | 0.06 | | | | | 80Za05 |
| 2255.5(10) | | | | | | | | | | | | | | | | | |
| 2301.1(2) | $\langle 9\rangle$ | | | | | | | 0.10 | | | | | | | | | 70Ro22 |
| 2470.2(6) | $3^-$ | 1 | 0.766 | 3000 | 0.15 | 1 | 0.68 | 0.8 | | | | | | | | | 63Fu04 |
| 2490(10) | $5^-$,$7^-$ | | | | | | | | | | | | | | | | |
| 2539.11(21) | $11^-$ | | | | | | | | | | | | | | | | |
| 2577.7(4) | $5^-$ | [3] | 0.184 | 90 | 0.05 | [3] | 0.18 | | | | | | | | | | 63Fu04 |
| 2600 | $7^+$,$9^+$ | [4] | 0.414 | | | [4] | 0.41 | 0.1 | | | | | | | | | 63Fu04 |
| 2813.8(3) | $13^-$ | | | | | | | | | | | | | | | | |
| 2872.3(2) | $5^-$,$7^-$ | | | | | | | 0.2 | | | 3 | 0.73 | | | 3 | 0.73 | 75We07 |
| 2938.9(4) | $7^-$ | | | | | | | 0.8 | 3 | 0.87 | 3 | 1.21 | | | | | 89Po14 |
| 2982.1(4) | $11^{\langle-\rangle}$ | | | | | | | | | | | | | | | | |
| 2984.4(4) | $9^-$ | | | | | | | | | | | | | | | | |
| 3028.5(7) | $3^-$ | 1 | 0.085 | 780 | 0.03 | 1 | 0.10 | 0.3 | | | | | | | | | 70Ro22 |
| 3072.0(4) | $11^-$ | | | | | | | | | | | | | | | | |
| 3076(3) | 11,$\langle 9\rangle$ | | | | | | | | | | | | | | | | |
| 3108.7(3) | $5^-$,$7^-$ | | | | | | | | | | | | | | | | |
| 3285 | | | | | | | | | | | | | | | | | |
| 3311(10) | $5^-$,$7^-$ | | | | | | | 0.2 | | | 3 | 0.093 | | | | | 80Za05 |
| 3362(10) | | | | | | | | | | | | | | | | | |
| 3419.0(4) | $15^-$ | | | | | | | | | | | | | | | | |
| 3456.9(5) | $13^-$ | | | | | | | | | | | | | | | | |
| 3552.3(8) | $3^-$ | 1 | 0.48 | 2700 | 0.11 | 1 | 0.48 | | | | 1 | 0.038 | | | | | 80Za05 |
| 3599(10) | $1^-$ | | | | | | | | | | 1 | 0.31 | | | 1 | 0.31 | 75We07 |
| 3660.8(11) | | | | | | | | | | | | | | | | | |
| 3709(10) | $1^-$,$3^-$ | | | | | | | | | | 1 | 0.084 | | | | | 80Za05 |
| 3722(10) | | | | | | | | | | | | | | | | | |
| 3790.3(8) | $1^-$ | 1 | 1.4 | 6000 | 0.50 | 1 | 1.2 | | | | | | | | | | 63Fu04 |
| 3800.6(10) | $3^-$ | 1 | incl | incl | incl | 1 | incl | | | | | | | | | | |
| 3814(10) | $7^+$,$9^+$ | | | 1300 | | | | 3.75 | | | | | | | | | 70Ro22 |
| 3815(15) | $5^-$,$7^-$ | | | | | | | | | | 3 | 0.22 | | | | | 80Za05 |
| 3860(10) | $7^+$,$9^+$ | 4 | 7.4 | | | 4 | 7.4 | | | | | | | | | | 63Fu04 |
| 3901.3(8) | $\langle 11\rangle^-$ | | | | | | | | | | | | | | | | |
| 3906.7(8) | $3^-$ | 1 | 0.07 | | | 1 | 0.07 | | | | | | | | | | 63Fu04 |
| 3960(10) | | | | | | | | | | | | | | | | | |
| 4028(10) | | | | | | | | | | | | | | | | | |
| 4057(10) | $5^-$,$7^-$ | 3 | 0.356 | 180 | 0.06 | 3 | 0.35 | | | | | | | | | | 63Fu04 |
| 4110(10) | | | | | | | | | | | | | | | | | |
| 4123(10) | | | | | | | | | | | | | | | | | |
| 4273(10) | $1^+$ | | | | | | | | | | | | | | | | |
| 4372(10) | | | | | | | | | | | | | | | | | |
| 4387(10) | | | | | | | | | | | | | | | | | |
| 4450(20) | $1^+$ | | | | | | | | 0 | 0.51 | 0 | 0.96 | | | | | 89Po14 |
| 4463(10) | $5^+$ | 2 | 1.03 | 3300 | 0.13 | 2 | 0.91 | | | | | | | | | | |

(continued) **$^{55}_{26}$Fe**

| $E^*$ [keV] | $2J^\pi$ | $L$ (d,p) | $S'$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S_N$ (d,p) | $L$ (d,p) | $S'$ (d,p) | $C^2S'$ ($\alpha,\tau$) | $L$ | $C^2S$ (p,d) | $L$ | $C^2S$ ($\tau,\alpha$) | $C^2S$ (p,d) | $C^2S$ (d,t) | $L$ | $C^2S$ ($\tau,\alpha$) | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4495.1(7) | $1^-$ | 1 | | | | 1 | | | | | | | | | | | |
| 4538(10) | $1^-$,$3^-$ | ⟨1⟩ | ≈0.1 | | | ⟨1⟩ | ≈0.1 | | | | | | | | | | 63Fu04 |
| 4636(10) | | | | | | | | | | | 2,3 | 0.30 | | | | | 75We07 |
| 4658(10) | $5^-$,$7^-$ | | | | | | | | | | 3 | 0.12 | | | [3] | 0.35 | 80Za05 |
| 4673(10) | | | | | | | | | | | | | | | | | |
| 4708.3(7) | $5^+$ | 2 | 0.306 | 1100 | 0.04 | 2 | 0.27 | | | | | | | | | | 63Fu04 |
| 4751(10) | | | | | | | | | | | | | | | | | |
| 4790(10) | | | | | | | | | | | | | | | | | |
| 4824(10) | $3^+$ | | | | | | | | 2 | 0.97 | | | | | | | 89Po14 |
| 4849(10) | | | | | | | | | | | | | | | | | |
| 4866.6(21) | | | | | | | | | | | | | | | | | |
| 4877(10) | $3^+$,$5^+$ | | | | | | | | | | 2 | 0.65 | | | | | 80Za05 |
| 4948(10) | | | | | | | | | | | | | | | | | |
| 4990(10) | | | | | | | | | | | | | | | | | |
| 4999(10) | | | | | | | | | | | | | | | | | 63Fu04 |
| 5041(10) | | | | | | | | | | | | | | | | | |
| 5078(10) | | | | | | | | | | | | | | | | | |
| 5099.6(6) | ⟨$19^-$⟩ | | | | | | | | | | | | | | | | |
| 5118(3) | $1^-$,$3^-$ | 1 | 0.046 | | | 1 | 0.05 | | | | | | | | | | 63Fu04 |
| 5185(10) | | | | | | | | | | | | | | | | | |
| 5208(10) | $5^-$,$7^-$ | | | | | | | | | | 3 | 0.18 | | | | | 80Za05 |
| 5237(10) | | | | | | | | | | | | | | | | | |
| 5286(10) | $5^-$,$7^-$ | | | | | | | | | | 3 | 0.31 | | | | | 80Za05 |
| 5306(10) | | | | | | | | | | | | | | | | | |
| 5326(10) | | | | | | | | | | | | | | | | | |
| 5363(10) | | | | | | | | | | | | | | | | | |
| 5370 | | | | | | | | | | | | | | | | | |
| 5394(10) | $3^+$,$5^+$ | 2 | 0.106 | | | 2 | 0.11 | | | | | | | | | | 63Fu04 |
| 5396(15) | $5^-$,$7^-$ | | | | | | | | | | 3 | 0.28 | | | | | 80Za05 |
| 5435(10) | | | | | | | | | | | | | | | | | |
| 5445(10) | $5^-$,$7^-$ | | | | | | | | | | 3 | 0.14 | | | | | 80Za05 |
| 5476.8(23) | | | | | | | | | | | | | | | | | |
| 5497(10) | | | | | | | | | | | | | | | | | |
| 5542(10) | | | | | | | | | | | | | | | | | |
| 5556(10) | | | | | | | | | | | | | | | | | |
| 5564(10) | $3^+$,$5^+$ | 2 | 0.037 | | | 2 | 0.04 | | | | | | | | | | 63Fu04 |
| 5599(10) | | | | | | | | | | | | | | | | | |
| 5634(10) | | | | | | | | | | | | | | | | | |
| 5668(15) | $5^-$,$7^-$ | | | | | | | | | | 3 | 0.12 | | | | | 80Za05 |
| 5687(10) | $1^+$ | 0 | 0.187 | | | 0 | 0.19 | | | | | | | | | | 63Fu04 |
| 5745(10) | | | | | | | | | | | | | | | | | |
| 5775(10) | $1^-$ | 1 | 0.104 | 870 | 0.04 | 1 | 0.09 | | | | | | | | | | 63Fu04 |
| 5817(10) | | | | | | | | | | | | | | | | | |
| 5839(10) | | | | | | | | | | | | | | | | | |
| 5872(10) | | | | | | | | | | | | | | | | | |

(continued) **$^{55}_{26}$Fe**

| $E^*$ [keV] | $2J^\pi$ | $L$ (d,p) | $S'$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S_N$ (d,p) | $L$ (d,p) | $S'$ (d,p) | $C^2S'$ $(\alpha,\tau)$ | $L$ | $C^2S$ (p,d) | $L$ | $C^2S$ $(\tau,\alpha)$ | $C^2S$ (p,d) | $C^2S$ (d,t) | $L$ | $C^2S$ $(\tau,\alpha)$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5900(10) | $3^+,5^+$ | 2 | 0.14 | | | 2 | 0.14 | | | | | | | | | | 63Fu04 |
| 5933(10) | | | | | | | | | | | | | | | | | |
| 5947(10) | | | | | | | | | | | | | | | | | |
| 5955(10) | $\langle 1^+\rangle$ | $\langle 0\rangle$ | $0.028\langle 0\rangle$ | | | $\langle 0\rangle$ | 0.03 | | | | | | | | | | 63Fu04 |
| 5989(10) | | | | | | | | | | | | | | | | | |
| 6053(15) | $5^-,7^-$ | | | | | | | | | | 3 | 0.21 | | | | | 80Za05 |
| 6059(10) | $3^+,5^+$ | 2 | 0.193 | | | 2 | 0.19 | | | | | | | | | | 63Fu04 |
| 6090(10) | | | | | | | | | | | | | | | | | |
| 6159(15) | $5^-,7^-$ | | | | | | | | | | 3 | 0.16 | | | | | 80Za05 |
| 6167(10) | $3^+,5^+$ | 2 | 0.460 | | | 2 | 0.45 | | | | | | | | | | 63Fu04 |
| 6229(10) | | | | | | | | | | | | | | | | | |
| 6237(10) | | | | | | | | | | | | | | | | | |
| 6282(10) | $1^+$ | 0 | 0.270 | | | 0 | 0.27 | | | | | | | | | | 63Fu04 |
| 6319(10) | $5^-,7^-$ | | | | | | | | | | 3 | 0.23 | | | | | 80Za05 |
| 6348(10) | | | | | | | | | | | | | | | | | |
| 6374(10) | | | | | | | | | | | | | | | | | |
| 6387(10) | | | | | | | | | | | | | | | | | |
| 6410(10) | | | | | | | | | | | | | | | | | |
| 6425(10) | | | | | | | | | | | | | | | | | |
| 6456(10) | | | | | | | | | | | | | | | | | |
| 6495(10) | $3^+,5^+$ | 2 | 0.565 | | | 2 | 0.56 | | | | | | | | | | 63Fu04 |
| 6528.6(12) | $\langle 21^-\rangle$ | | | | | | | | | | | | | | | | |
| 6579(10) | | | | | | | | | | | | | | | | | |
| 6596(10) | | | | | | | | | | | | | | | | | |
| 6610(10) | | | | | | | | | | | | | | | | | |
| 6628(10) | $3^+,5^+$ | 2 | 0.342 | | | 2 | 0.34 | | | | | | | | | | 63Fu04 |
| 6654(10) | | | | | | | | | | | | | | | | | |
| 6670(10) | | | | | | | | | | | | | | | | | |
| 6745(10) | | | | | | | | | | | | | | | | | |
| 6776(10) | $3^+,5^+$ | 2 | 0.496 | | | 2 | 0.50 | | | | | | | | | | 63Fu04 |
| 6826(10) | | | | | | | | | | | | | | | | | |
| 6846(10) | | | | | | | | | | | | | | | | | 63Fu04 |
| 6857(10) | | | | | | | | | | | | | | | | | |
| 6874(10) | | | | | | | | | | | | | | | | | |
| 6916(10) | $3^+,5^+$ | 2 | 0.29 | | | 2 | 0.29 | | | | | | | | | | 63Fu04 |
| 6962(10) | $1^+$ | 0 | 0.05 | | | 0 | 0.05 | | | | | | | | | | 63Fu04 |
| 6980(10) | | | | | | | | | | | | | | | | | |
| 7008(10) | | | | | | | | | | | | | | | | | |
| 7030(10) | | | | | | | | | | | | | | | | | |
| 7054(10) | | | | | | | | | | | | | | | | | |
| 7070(10) | | | | | | | | | | | | | | | | | |
| 7092(10) | | | | | | | | | | | | | | | | | |
| 7105(10) | | | | | | | | | | | | | | | | | |
| 7126(10) | | | | | | | | | | | | | | | | | |
| 7149(10) | | | | | | | | | | | | | | | | | |

(continued) **$^{55}_{26}$Fe**

| $E^*$ [keV] | $2J^\pi$ | $L$ (d,p) | $S'$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S_N$ (d,p) | $L$ (d,p) | $S'$ (d,p) | $C^2S'$ $(\alpha,\tau)$ | $L$ | $C^2S$ (p,d) | $L$ | $C^2S$ $(\tau,\alpha)$ | $C^2S$ (p,d) | $C^2S$ (d,t) | $L$ | $C^2S$ $(\tau,\alpha)$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7178(10) | | | | | | | | | | | | | | | | | |
| 7215(10) | | | | | | | | | | | | | | | | | |
| 7235(10) | | | | | | | | | | | | | | | | | |
| 7252(10) | $3^+,5^+$ | 2 | 0.603 | | | 2 | 0.60 | | | | | | | | | | 63Fu04 |
| 7270(10) | | | | | | | | | | | | | | | | | |
| 7310(10) | | | | | | | | | | | | | | | | | |
| 7360(10) | | | | | | | | | | | | | | | | | |
| 7369(10) | $3^+,5^+$ | 2 | 0.212 | | | 2 | 0.21 | | | | | | | | | | 63Fu04 |
| 7382(10) | | | | | | | | | | | | | | | | | |
| 7419(10) | $X^+$ | [2] | 0.12 | | | [2] | 0.12 | | | | | | | | | | 63Fu04 |
| 7450 | | | ≈0.04 | | | | | | | | | | | | | | |
| 7480 | $5^-,7^-$ | | | | | | | | | | 3 | 0.4,0.6 | | | 3 | 0.44 | 75We07 |
| 7510(30) | $X^{\langle-\rangle}$ | | | | | | | | | | | | | | | | |
| 7606.2(13) | $\langle 23\rangle$ | | | | | | | | | | | | | | | | |
| 7610 | $\langle 5^-\rangle$ | | | | | | | | | | | | | | | | |
| 7614 | $3^+,5^+$ | 2 | 0.276 | | | 2 | 0.28 | | | | | | | | | | 63Fu04 |
| 7625(15) | $5^-,7^-$ | | | | | | | | | | 3 | 0.059 | | | | | 80Za05 |
| 7730(30) | $\langle 7\rangle^-$ | | | | | | | | | | 3 | 1.56 | | | | | 80Za05 |
| 7780(50)** | $7^-$ | | | | | | | | 3 | 0.82 | | | | | | | 89Po14 |
| 7808 | $X^+$ | 2 | 0.16 | | | 2 | 0.16 | | | | | | | | | | 63Fu04 |
| 7853 | $3^+,5^+$ | 2 | 0.13 | | | 2 | 0.13 | | | | | | | | | | 63Fu04 |
| 7918.9(13) | 23 | | | | | | | | | | | | | | | | |
| 7938 | | | | | | | | | | | | | | | | | 63Fu04 |
| 8028 | $3^+,5^+$ | 2 | 0.082 | | | 2 | 0.08 | | | | | | | | | | 63Fu04 |
| 8130 | $3^+,5^+$ | $\langle 2\rangle$ | 0.18 | | | $\langle 2\rangle$ | 0.18 | | | | | | | | | | 63Fu04 |
| 8180 | $3^+,5^+$ | $\langle 2\rangle$ | 0.18 | | | $\langle 2\rangle$ | 0.18 | | | | | | | | | | 63Fu04 |
| 8264 | $3^+,5^+$ | 2 | 0.195 | | | 2 | 0.19 | | | | | | | | | | 63Fu04 |
| 8420(15) | | | | | | | | | | | | | | | | | |
| 8527(15) | $3^+,5^+$ | 2 | 0.106 | | | 2 | 0.11 | | | | | | | | | | 63Fu04 |
| 8560 | $\langle 1^+\rangle$ | $\langle 0\rangle$ | 0.07 | | | $\langle 0\rangle$ | 0.07 | | | | | | | | | | 63Fu04 |
| 8796 | $3^+,5^+$ | 2 | 0.141 | | | 2 | 0.14 | | | | | | | | | | 63Fu04 |
| 8843 | $1^+$ | 0 | 0.15 | | | 0 | 0.15 | | | | | | | | | | 63Fu04 |
| 8892(15) | $3^+,5^+$ | | | | | | | | | | 2 | 0.13 | | | | | 80Za05 |
| 8910 | $1^+$ | 0 | 0.14 | | | 0 | 0.14 | | | | | | | | | | 63Fu04 |
| 8987.7(18) | 25 | | | | | | | | | | | | | | | | |
| 9007 | $3^+,5^+$ | 2 | 0.42 | | | 2 | 0.42 | | | | | | | | | | 63Fu04 |
| 9115(15) | $1^-,3^-$ | | | | | | | | | | 1 | 0.10 | | | | | 80Za05 |
| 9305.3(16) | 25 | | | | | | | | | | | | | | | | |
| 9908 | 27 | | | | | | | | | | | | | | | | |
| 10242.7(21) | 27 | | | | | | | | | | | | | | | | |
| 10727.7(12) | | | | | | | | | | | | | | | | | |

(continued) **$^{55}_{26}$Fe**

| $E^*$ | $L$ | $S'$ | $\sigma$ (d,p) | $S_N$ | $L$ | $S'$ | $C^2S'$ | $L$ | $C^2S$ | $L$ | $C^2S$ | $C^2S$ | $C^2S$ | $L$ | $C^2S$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| [keV] | (d,p) | (d,p) | $\mu$b/sr | (d,p) | (d,p) | (d,p) | $(\alpha,\tau)$ | | (p,d) | | $(\tau,\alpha)$ | (p,d) | (d,t) | | $(\tau,\alpha)$ | |
| | | | 72Ko41 | 72Ko41 | | 91Hu07 | | | 89Po14 | | | | 89Po14 | | 75We07 | Ref. |
| | | 63Fu04 | | | | | 70Ro22 | | | | 80Za05 | | 81Za04 | | | Ref. |

Additional data on this isotope can be found in [01Ku04, 82Ke12, 80Ho18, 79Po16, 75Ri05, 64Bo08, 64Sp03].

* $S_N$ from [75Ri05] instead of parameter $C^2S$ for the $(\tau,\alpha)$ reaction from [75We07, 67Gl01].

** Analog of the excited state at 126 keV in $^{55}$Mn [65Sh06].

Parameters of deuteron stripping reaction (d,p) from two independent works [63Fu04, 72Ko41] and recommended values $S'$ from [91Hu07] are given at left.

Parameters of three neutron pickup reactions (p,d), (d,t) and $(\tau,\alpha)$ are compared in [89Po14].

Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [91Hu07]. Part 2 **$^{55}_{26}$Fe**

| $E^*$ | $2J^\pi$ | $\sigma$ (d,p) | $T_{1/2}$ or | Ref. | Branching ratios in percentage | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $E_f^*$: 0.0 | 411 | 931 | 1316 | 1408 | 1918 | 2052 | 2212 |
| [keV] | | $\mu$b/sr | $\Gamma_{cm}$ | | $2J_f^\pi$: $3^-$ | $1^-$ | $5^-$ | $7^-$ | $7^-$ | $1^-$ | $3^-$ | $9^-$ |
| 0.0 | $3^-$ | 17200 | 2.74(1) yr | 89Po14 | | | | | | | | |
| 411.42(21) | $1^-$ | 6630 | 6(+6-3) ps | 89Po14 | 100 | | | | | | | |
| 931.29(13) | $5^-$ | 1690 | 8(3) ps | 80Ho18 | 98(1) | 2(1) | | | | | | |
| 1316.5(1) | $7^-$ | 166 | 2.1(+14-7) ps | 81Za04 | 93(1) | | 7.1(5) | | | | | |
| 1408.4(1) | $7^-$ | ≈70 | 37.9(17) ps | 64Le10 | 44.2(2) | | 53(4) | 3.0(2) | | | | |
| 1918.3(5) | $1^-$ | 1630 | 12(4) fs | 63Fu04 | 68(3) | 32(3) | | | | | | |
| 2015 | $1^-$,$3^-$ | | | 70Ro22 | | | | | | | | |
| 2051.7(4) | $3^-$ | 2450 | 7.6(21) fs | 63Fu04 | 23(2) | 77(2) | | | | | | |
| 2144.0(3) | $5^-$ | 514 | 38(+11-8) fs | 75We07 | 18(2) | 3(1) | 43(4) | 36(5) | | | | |
| 2220(25) | | ≈70 | | 80Za05 | | | | | | | | |
| 2255.5(10) | | | | | | | | | 100 | | | |
| 2301.1(2) | ⟨9⟩ | | 0.6(+5-2) ps | 70Ro22 | | | 92(2) | 8(2) | <2 | | | |
| 2470.2(6) | $3^-$ | 5130 | 15(3) fs | 63Fu04 | 66(32) | 34(2) | | | | | | |
| 2490(10) | $5^-$,$7^-$ | | | | x | | | | | | | |
| 2539.11(21) | $11^-$ | | 9.3(13) ps | | | | | 94(1) | | | | 1.0(2) |
| 2577.7(4) | $5^-$ | 114 | 46(6) fs | 63Fu04 | 84(2) | 7(2) | 6(2) | 3(2) | | | | |
| 2600 | $7^+$,$9^+$ | incl | | 63Fu04 | | | | | | | | |
| 2813.8(3) | $13^-$ | | 10.0(21) ps | | | | | | | | | |
| 2872.3(2) | $5^-$,$7^-$ | | 19(6) fs | 75We07 | 66(3) | | 8(3) | 26(5) | | | | |
| 2938.9(4) | $7^-$ | | 29(+9-8) fs | 89Po14 | 55(5) | | | 45(4) | | | | |
| 2982.1(4) | $11^{\langle-\rangle}$ | | | | | | | | | | | 100 |
| 2984.4(4) | $9^-$ | | | | x | | x | | x | | | x |
| 3028.5(7) | $3^-$ | 594 | 15(8) fs | 70Ro22 | 65(6) | 35(7) | | | <1 | | | |
| 3072.0(4) | $11^-$ | | >0.7 ps | | | | | | | | | |
| 3076(3) | 11,⟨9⟩ | | 0.44(+21-11) ps | | | | | | 100 | | | |
| 3108.7(3) | $5^-$,$7^-$ | | | | 1.4(6) | | 77(10) | 22(3) | | | | |

(continued) **$^{55}_{26}$Fe**

| $E^*$ | $2J^\pi$ | $\sigma$ (d,p) | $T_{1/2}$ or | Ref. | Branching ratios in percentage | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $E_f^*$: | 0.0 | 411 | 931 | 1316 | 1408 | 1918 | 2052 | 2212 |
| [keV] | | $\mu$b/sr | $\Gamma_{cm}$ | | $2J_f^\pi$: | $3^-$ | $1^-$ | $5^-$ | $7^-$ | $7^-$ | $1^-$ | $3^-$ | $9^-$ |
| 3285 | | | 8(7) fs | | | | x | | | | | | |
| 3311(10) | $5^-$,$7^-$ | | | 80Za05 | | | | | | | | | |
| 3362(10) | | | | | | | | | | | | | |
| 3419.0(4) | $15^-$ | | 0.07(2) ps | | | | | | | | | | |
| 3456.9(5) | $13^-$ | | >0.6 ps | | | | | | | | | | |
| 3552.3(8) | $3^-$ | | <3.5 fs | 80Za05 | | 100 | | | | | | | |
| 3599(10) | $1^-$ | | | 75We07 | | | | | | | | | |
| 3660.8(11) | | | | | | | | | | | | | |
| 3709(10) | $1^-$,$3^-$ | | | 80Za05 | | | | | | | | | |
| 3722(10) | | | | | | | | | | | | | |
| 3790.3(8) | $1^-$ | 10800 | <11 fs | 63Fu04 | | 44(22) | 36(17) | | | | 20(10) | x | |
| 3800.6(10) | $3^-$ | | | | | | | | 100 | | | | |
| 3814(10) | $7^+$,$9^+$ | | | 70Ro22 | | | | | | | | | |
| 3815(15) | $5^-$,$7^-$ | | | 80Za05 | | | | | | | | | |
| 3860(10) | $7^+$,$9^+$ | 2440 | | 63Fu04 | | | | | | | | | |
| 3901.3(8) | $\langle 11\rangle^-$ | | | | | | | | | | | | |
| 3906.7(8) | $3^-$ | 533 | <3.5 fs | 63Fu04 | | 100 | | | | | | | |
| 3960(10) | | | | | | | | | | | | | |
| 4028(10) | | | | | | | | | | | | | |
| 4057(10) | $5^-$,$7^-$ | 264 | | 63Fu04 | | | | | | | | | |
| 4110(10) | | | | | | | | | | | | | |
| 4123(10) | | | | | | | | | | | | | |
| 4273(10) | $1^+$ | | | | | | | | | | | | |
| 4372(10) | | | | | | | | | | | | | |
| 4387(10) | | | | | | | | | | | | | |
| 4450(20) | $1^+$ | | | 89Po14 | | | | | | | | | |
| 4463(10) | $5^+$ | 4280 | | | | | | | | | | | |
| 4495.1(7) | $1^-$ | | 3.5(21) fs | | | 100 | | | | | | | |
| 4538(10) | $1^-$,$3^-$ | ≈700 | | 63Fu04 | | | | | | | | | |
| 4636(10) | | | | 75We07 | | | | | | | | | |
| 4658(10) | $5^-$,$7^-$ | | | 80Za05 | | | | | | | | | |
| 4673(10) | | | | | | | | | | | | | |
| 4708.3(7) | $5^+$ | 1330 | 4.2(28) fs | 63Fu04 | | | | | | | [100] | | |
| 4751(10) | | | | | | | | | | | | | |
| 4790(10) | | | | | | | | | | | | | |
| 4824(10) | $3^+$ | | | 89Po14 | | | | | | | | | |
| 4849(10) | | | | | | | | | | | | | |
| 4866.6(21) | | | | | | | 100 | | | | | | |
| 4877(10) | $3^+$,$5^+$ | | | 80Za05 | | | | | | | | | |
| 4948(10) | | | | | | | | | | | | | |
| 4990(10) | | | | | | | | | | | | | |
| 4999(10) | | 432 | | 63Fu04 | | | | | | | | | |
| 5041(10) | | | | | | | | | | | | | |
| 5078(10) | | | | | | | | | | | | | |
| 5099.6(6) | $\langle 19^-\rangle$ | | 22.4(8) ps | | | | | | | | | | |

(continued) **$^{55}_{26}$Fe**

| $E^*$ | $2J^\pi$ | $\sigma$ (d,p) | $T_{1/2}$ or | Ref. | Branching ratios in percentage | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $E_f^*$: | 0.0 | 411 | 931 | 1316 | 1408 | 1918 | 2052 | 2212 |
| [keV] | | $\mu$b/sr | $\Gamma_{cm}$ | | $2J_f^\pi$: | $3^-$ | $1^-$ | $5^-$ | $7^-$ | $7^-$ | $1^-$ | $3^-$ | $9^-$ |
| 5118(3) | $1^-$,$3^-$ | 382 | 6(4) fs | 63Fu04 | | | 100 | | | | | | |
| 5185(10) | | | | | | | | | | | | | |
| 5208(10) | $5^-$,$7^-$ | | | 80Za05 | | | | | | | | | |
| 5237(10) | | | | | | | | | | | | | |
| 5286(10) | $5^-$,$7^-$ | | | 80Za05 | | | | | | | | | |
| 5306(10) | | | | | | | | | | | | | |
| 5326(10) | | | | | | | | | | | | | |
| 5363(10) | | | | | | | | | | | | | |
| 5370 | | | | | | | | | | | | | |
| 5394(10) | $3^+$,$5^+$ | 516 | | 63Fu04 | | | | | | | | | |
| 5396(15) | $5^-$,$7^-$ | | | 80Za05 | | | | | | | | | |
| 5435(10) | | | | | | | | | | | | | |
| 5445(10) | $5^-$,$7^-$ | | | 80Za05 | | | | | | | | | |
| 5476.8(23) | | | >0.7 ps | | | | | | | | | | |
| 5497(10) | | | | | | | | | | | | | |
| 5542(10) | | | | | | | | | | | | | |
| 5556(10) | | | | | | | | | | | | | |
| 5564(10) | $3^+$,$5^+$ | 188 | | 63Fu04 | | | | | | | | | |
| 5599(10) | | | | | | | | | | | | | |
| 5634(10) | | | | | | | | | | | | | |
| 5668(15) | $5^-$,$7^-$ | | | 80Za05 | | | | | | | | | |
| 5687(10) | $1^+$ | 2810 | | 63Fu04 | | | | | | | | | |
| 5745(10) | | | | | | | | | | | | | |
| 5775(10) | $1^-$ | 911 | | 63Fu04 | | | | | | | | | |
| 5817(10) | | | | | | | | | | | | | |
| 5839(10) | | | | | | | | | | | | | |
| 5872(10) | | | | | | | | | | | | | |
| 5900(10) | $3^+$,$5^+$ | 751 | | 63Fu04 | | | | | | | | | |
| 5933(10) | | | | | | | | | | | | | |
| 5947(10) | | | | | | | | | | | | | |
| 5955(10) | $\langle 1^+ \rangle$ | 414 | | 63Fu04 | | | | | | | | | |
| 5989(10) | | | | | | | | | | | | | |
| 6053(15) | $5^-$,$7^-$ | | | 80Za05 | | | | | | | | | |
| 6059(10) | $3^+$,$5^+$ | 1060 | | 63Fu04 | | | | | | | | | |
| 6090(10) | | | | | | | | | | | | | |
| 6159(15) | $5^-$,$7^-$ | | | 80Za05 | | | | | | | | | |
| 6167(10) | $3^+$,$5^+$ | 2580 | | 63Fu04 | | | | | | | | | |
| 6229(10) | | | | | | | | | | | | | |
| 6237(10) | | | | | | | | | | | | | |
| 6282(10) | $1^+$ | 4060 | | 63Fu04 | | | | | | | | | |
| 6319(10) | $5^-$,$7^-$ | | | 80Za05 | | | | | | | | | |
| 6348(10) | | | | | | | | | | | | | |
| 6374(10) | | | | | | | | | | | | | |
| 6387(10) | | | | | | | | | | | | | |
| 6410(10) | | | | | | | | | | | | | |

(continued) **$^{55}_{26}$Fe**

| $E^*$ [keV] | $2J^\pi$ | $\sigma$ (d,p) $\mu$b/sr | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. | Branching ratios in percentage | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $E_f^*$: | 0.0 | 411 | 931 | 1316 | 1408 | 1918 | 2052 | 2212 |
| | | | | | $2J_f^\pi$: | $3^-$ | $1^-$ | $5^-$ | $7^-$ | $7^-$ | $1^-$ | $3^-$ | $9^-$ |
| 6425(10) | | | | | | | | | | | | | |
| 6456(10) | | | | | | | | | | | | | |
| 6495(10) | $3^+,5^+$ | 3340 | | 63Fu04 | | | | | | | | | |
| 6528.6(12) | $\langle 21^- \rangle$ | | <0.7 ps | | | | | | | | | | |
| 6579(10) | | | | | | | | | | | | | |
| 6596(10) | | | | | | | | | | | | | |
| 6610(10) | | | | | | | | | | | | | |
| 6628(10) | $3^+,5^+$ | 2050 | | 63Fu04 | | | | | | | | | |
| 6654(10) | | | | | | | | | | | | | |
| 6670(10) | | | | | | | | | | | | | |
| 6745(10) | | | | | | | | | | | | | |
| 6776(10) | $3^+,5^+$ | 3080 | | 63Fu04 | | | | | | | | | |
| 6826(10) | | | | | | | | | | | | | |
| 6846(10) | | ≈1500 | | 63Fu04 | | | | | | | | | |
| 6857(10) | | | | | | | | | | | | | |
| 6874(10) | | | | | | | | | | | | | |
| 6916(10) | $3^+,5^+$ | ≈1800 | | 63Fu04 | | | | | | | | | |
| 6962(10) | $1^+$ | ≈710 | | 63Fu04 | | | | | | | | | |
| 6980(10) | | | | | | | | | | | | | |
| 7008(10) | | | | | | | | | | | | | |
| 7030(10) | | | | | | | | | | | | | |
| 7054(10) | | | | | | | | | | | | | |
| 7070(10) | | | | | | | | | | | | | |
| 7092(10) | | | | | | | | | | | | | |
| 7105(10) | | | | | | | | | | | | | |
| 7126(10) | | | | | | | | | | | | | |
| 7149(10) | | | | | | | | | | | | | |
| 7178(10) | | | | | | | | | | | | | |
| 7215(10) | | | | | | | | | | | | | |
| 7235(10) | | | | | | | | | | | | | |
| 7252(10) | $3^+,5^+$ | 4030 | | 63Fu04 | | | | | | | | | |
| 7270(10) | | | | | | | | | | | | | |
| 7310(10) | | | | | | | | | | | | | |
| 7360(10) | | | | | | | | | | | | | |
| 7369(10) | $3^+,5^+$ | 1430 | | 63Fu04 | | | | | | | | | |
| 7382(10) | | | | | | | | | | | | | |
| 7419(10) | $X^+$ | ≈750 | | 63Fu04 | | | | | | | | | |
| 7450 | | ≈640 | | | | | | | | | | | |
| 7480 | $5^-,7^-$ | | | 75We07 | | | | | | | | | |
| 7510(30) | $X^{\langle - \rangle}$ | | | | | | | | | | | | |
| 7606.2(13) | $\langle 23 \rangle$ | | | | | | | | | | | | |
| 7610 | $\langle 5^- \rangle$ | | | | | | | | | | | | |
| 7614 | $3^+,5^+$ | 1900 | | 63Fu04 | | | | | | | | | |
| 7625(15) | $5^-,7^-$ | | | 80Za05 | | | | | | | | | |
| 7730(30) | $\langle 7 \rangle^-$ | | | 80Za05 | | | | | | | | | |

(continued) **$^{55}_{26}$Fe**

| $E^*$ | $2J^\pi$ | $\sigma$ (d,p) | $T_{1/2}$ or | Ref. | Branching ratios in percentage | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $E_f^*$: | 0.0 | 411 | 931 | 1316 | 1408 | 1918 | 2052 | 2212 |
| [keV] | | $\mu$b/sr | $\Gamma_{cm}$ | | $2J_f^\pi$: | $3^-$ | $1^-$ | $5^-$ | $7^-$ | $7^-$ | $1^-$ | $3^-$ | $9^-$ |
| 7780(50)** | $7^-$ | | | 89Po14 | | | | | | | | | |
| 7808 | $X^+$ | ≈1200 | | 63Fu04 | | | | | | | | | |
| 7853 | $3^+,5^+$ | ≈910 | | 63Fu04 | | | | | | | | | |
| 7918.9(13) | 23 | | | | | | | | | | | | |
| 7938 | | 935 | | 63Fu04 | | | | | | | | | |
| 8028 | $3^+,5^+$ | 594 | | 63Fu04 | | | | | | | | | |
| 8130 | $3^+,5^+$ | ≈1350 | | 63Fu04 | | | | | | | | | |
| 8180 | $3^+,5^+$ | ≈1350 | | 63Fu04 | | | | | | | | | |
| 8264 | $3^+,5^+$ | 1450 | | 63Fu04 | | | | | | | | | |
| 8420(15) | | | | | | | | | | | | | |
| 8527(15) | $3^+,5^+$ | 795 | | 63Fu04 | | | | | | | | | |
| 8560 | $\langle 1^+ \rangle$ | ≈980 | | 63Fu04 | | | | | | | | | |
| 8796 | $3^+,5^+$ | 1120 | | 63Fu04 | | | | | | | | | |
| 8843 | $1^+$ | ≈2200 | | 63Fu04 | | | | | | | | | |
| 8892(15) | $3^+,5^+$ | | | 80Za05 | | | | | | | | | |
| 8910 | $1^+$ | ≈2100 | | 63Fu04 | | | | | | | | | |
| 8987.7(18) | 25 | | | | | | | | | | | | |
| 9007 | $3^+,5^+$ | 3400 | | 63Fu04 | | | | | | | | | |
| 9115(15) | $1^-,3^-$ | | | 80Za05 | | | | | | | | | |
| 9305.3(16) | 25 | | | | | | | | | | | | |
| 9908 | 27 | | | | | | | | | | | | |
| 10242.7(21) | 27 | | | | | | | | | | | | |
| 10727.7(12) | | | | | | | | | | | | | |
| | | | | Ref. | | | | | | | | | |
| | | 63Fu04 | | Ref. | | | | | | | | | |

Energy levels and branching ratios [91Hu07]. Part 3 **$^{55}_{26}$Fe**

| $E^*$ | $2J^\pi$ | Branching ratios in percentage | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $E_f^*$: | 2301.1 | 2539.1 | 2813.8 | 2984.4 | 3419.0 | 3660.8 | 5099.6 | 6528.6 | 7606.2 | 7918.9 | 8987.7 |
| [keV] | $2J_f^\pi$: | $\langle 9 \rangle$ | $11^-$ | $13^-$ | $9^-$ | $15^-$ | | $\langle 19^- \rangle$ | $\langle 21^- \rangle$ | $\langle 23 \rangle$ | 23 | 25 |
| 2539.11(21) | $11^-$ | 5.0(4) | | | | | | | | | | |
| 2813.8(3) | $13^-$ | | 100 | | | | | | | | | |
| 3072.0(4) | $11^-$ | | 83.1 | 16.9 | | | | | | | | |
| 3419.0(4) | $15^-$ | | | 100 | | | | | | | | |
| 3456.9(5) | $13^-$ | | 100 | | | | | | | | | |
| 3660.8(11) | | | | 100 | | | | | | | | |
| 3901.3(8) | $\langle 11 \rangle^-$ | | | | 100 | | | | | | | |
| 5099.6(6) | $\langle 19^- \rangle$ | | | | | 100 | | | | | | |
| 5476.8(23) | | | | | | | 100 | | | | | |
| 6528.6(12) | $\langle 21^- \rangle$ | | | | | | | 100 | | | | |
| 7606.2(13) | $\langle 23 \rangle$ | | | | | | | | 100 | | | |

(continued) **$^{55}_{26}$Fe**

| $E^*$ | $2J^\pi$ | Branching ratios in percentage | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $E_f^*$: | 2301.1 | 2539.1 | 2813.8 | 2984.4 | 3419.0 | 3660.8 | 5099.6 | 6528.6 | 7606.2 | 7918.9 | 8987.7 |
| [keV] | $2J_f^\pi$: | ⟨9⟩ | $11^-$ | $13^-$ | $9^-$ | $15^-$ | | ⟨$19^-$⟩ | ⟨$21^-$⟩ | ⟨23⟩ | 23 | 25 |
| 7918.9(13) | 23 | | | | | | | | 100 | | | |
| 8987.7(18) | 25 | | | | | | | | | 100 | | |
| 9305.3(16) | 25 | | | | | | | | | x | x | |
| 10242.7(21) | 27 | | | | | | | | | | | 100 |

Energy levels and branching ratios [99Hu04]. **$^{56}_{26}$Fe**

| $E^*$ | $J^\pi$ | $L$ | $\beta_L$ | $I_\gamma$ | $\Gamma_\circ$ | $\sigma$ ($\tau$,n) | $\sigma$ ($\tau$,n) | $R$ | $N$ | $T_{1/2}$ or | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| [keV] | | | (p,p′) | [eVb] | [meV] | $\mu$b/sr | $\mu$b/sr | ($\tau$,n) | ($\alpha$,$^2$He) | $\Gamma_{cm}$ | |
| 0.0 | $0^+$ | | | | | 800(80) | 590(30) | 1.55 | 600(250) | Stable | 90Fi07 |
| 846.776(5) | $2^+$ | 2 | 0.20 | | | | | | | 6.07(23) ps | 99Hu04 |
| 2085.08(1) | $4^+$ | ⟨4⟩ | | | | | | | | 0.64(12) ps | |
| 2657.56(1) | $2^+$ | 2 | 0.08 | | | | | | | 21(1) fs | 99Hu04 |
| 2941.50(3) | $0^+$ | ⟨0⟩ | | | | | | | | 0.45(+21-12) ps | |
| 2959.92(1) | $2^+$ | ⟨2⟩ | 0.03 | | | | | | | 28(3) fs | 99Hu04 |
| 3076.2(4) | ⟨$3^-$⟩ | | | | | | | | | | |
| 3120.11(5) | ⟨$1^+$⟩ | 4 | 0.10 | | | | | | | 19(1) fs | 99Hu04 |
| 3122.93(1) | $4^+$ | | | | | | | | 180(35) | 47(12) fs | 90Fi07 |
| 3369.84(4) | $2^+$ | 2 | 0.05 | 14(3) | 47(6) | | | | | 17(3) fs | 99Hu04 |
| 3388.55(5) | $6^+$ | ⟨6⟩ | 0.03 | | | | | | | 2.9(2) ps | 69Pe02 |
| 3445.31(1) | $3^+$ | | | | | | | | | 29(5) fs | |
| 3448.41(6) | $1^+$ | | | 60(3) | 78(5) | | | | | 8(3) fs | 00Ba63 |
| 3600.21(7) | ⟨$1,2^+$⟩ | | | | | | | | | <59 fs | |
| 3605.69(6) | $2^+$ | 2 | 0.05 | 9.6(26) | 11(4) | | | | | 0.15(4) ps | 69Pe02 |
| 3610.21(19) | $0^{(+)}$ | | | | | | | | | 52(21) fs | |
| 3744.13(24) | $2^+$ | 2 | 0.08 | | | | | | | | 69Pe02 |
| 3755.57(4) | $6^+$ | | | | | | | | | 0.13(2) ps | |
| 3759.6(10) | ⟨2–6⟩ | | | | | | | | | | |
| 3829.77(9) | $2^+$ | 2 | 0.05 | | | | | | | 39(5) fs | 99Hu04 |
| 3856.45(1) | $3^+$ | | | | | | | | | 25(3) fs | |
| 4048.83(1) | $3^+$ | | | | | | | | | 7(3) fs | |
| 4085.9(2) | ⟨$1,2^+$⟩ | | | | | | | | | | |
| 4100.31(1) | $4^+$ | | | | | | | | | 43(5) fs | |
| 4119.87(1) | $3^+$ | 4 | 0.07 | | | | | | | 0.14(4) ps | 99Hu04 |
| 4298.04(1) | $4^+$ | | | | | | | | | 110(50) fs | |
| 4300.9(10) | $0^+$ | | | | | | | | | | |
| 4320 | $2^+$ | | | | | | | | | 37(6) fs | |
| 4370 | $3^-$ | | | | | | | | | | |
| 4394.83(6) | $3^+$ | ⟨4⟩ | 0.053 | | | | | | | 35(17) fs | 69Pe02 |
| 4401.40(12) | $2^+$ | | | | | | | | | | |
| 4447.6(4) | | | | | | | | | | | |

(continued) **$^{56}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ | $\beta_L$ (p,p′) | $I_\gamma$ [eVb] | $\Gamma_\circ$ [meV] | $\sigma$ ($\tau$,n) $\mu$b/sr | $\sigma$ ($\tau$,n) $\mu$b/sr | $R$ ($\tau$,n) | $N$ ($\alpha$,$^2$He) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4458.53(1) | $4^+$ | 4 | 0.074 | | | | | | | 26(+12-8) fs | 69Pe02 |
| 4509.64(12) | $3^-$ | 3 | 0.17 | | | | | | | 83(28) fs | 99Hu04 |
| 4539.5(6) | $1^+$,$2^+$ | | | | | | | | | 25(+20-14) fs | |
| 4554.08(17) | $2^+$–$4^+$ | | | | | | | | | | |
| 4612.3(7) | $4^+$ | 4 | 0.055 | | | | | | | | 69Pe02 |
| 4620(4) | | | | | | | | | | | |
| 4658.26(7) | $2^+$–$4^+$ | | | | | | | | | | |
| 4669.4(5) | $\langle 1 \rangle$ | | | 6.2(20) | 12(5) | | | | | | 00Ba63 |
| 4684.7(10) | $4^+$ | 4 | 0.084 | | | | | | | | 69Pe02 |
| 4700.63(13) | $7^+$ | | | | | | | | | 0.083(+82-14) ps | |
| 4728.14(18) | $2^+$ | $\langle 2 \rangle$ | 0.05 | | | | | | | 63(+57-20) fs | 69Pe02 |
| 4730.0(10) | $0^+$ | | | | | 170(20) | | | | | 72Ev02 |
| 4739.6(7) | $2^+$–$4^+$ | | | | | | | | | | |
| 4784.12(25) | $\langle 1,2^+ \rangle$ | | | | | | | | | | |
| 4802(5) | | | | | | | | | | | |
| 4822 | | | | | | | | | | | |
| 4846.1(8) | | | | 7.7(23) | 16(5) | | | | | 64(27) fs | 00Ba63 |
| 4866.52(3) | $\langle 1,2^+ \rangle$ | | | | | | | | | 9.7(20) fs | |
| 4877(5) | $4^+$ | 4 | 0.071 | | | | | | | | 69Pe02 |
| 4878.0(6) | $2^+$ | | | | | | | | | | |
| 4881.7(6) | | | | | | | | | | | |
| 4887.1(12) | | | | | | | | | | | |
| 5023.49(3) | $\langle 1,2 \rangle^+$ | | | | | | | | | 6(3) fs | |
| 5026.7(8) | | | | | | | | | | | |
| 5041.9(11) | $4^+$ | | | | | | | | | | |
| 5062(3) | | | | | | | | | | | |
| 5122.11(10) | $5^-$ | 5 | 0.041 | | | | | | 130(40) | | 69Pe02 |
| 5133.4(6) | | | | | | | | | | | |
| 5143.6(8) | | | | | | | | | | | |
| 5148.1(10) | | | | | | | | | | | |
| 5186.3(10) | $1^-$ | | | | | | | | | | |
| 5188(5) | $2^+$ | | | | | | | | | | |
| 5194.80(18) | $\langle 1,2^+ \rangle$ | | | | | | | | | | |
| 5219(10) | | | | | | | | | | | |
| 5227.8(4) | 1 | | | 18(3) | 42(6) | | | | | 12.3(20) fs | 00Ba63 |
| 5231.2(10) | | | | | | | | | | 20(+20-10) fs | |
| 5240.7(5) | | | | | | | | | | | |
| 5249(5) | $4^+$ | 4 | 0.05 | | | | | | | | 69Pe02 |
| 5255.7(4) | $8^+$ | | | | | | | | | 0.35(4) ps | |
| 5257.1(5) | $2^+$ | | | 14(2) | 30(6) | | | | | 20(4) fs | 00Ba63 |
| 5274(5) | | | | | | | | | | | |
| 5296(5) | $0^+$ | | | | | | 520(100) | 0.76 | | | 75Al05 |
| 5306.6(7) | | | | | | | | | | | |
| 5386(7) | $0^+$ | | | | | 350(30) | | | | | 72Ev02 |
| 5403.6(8) | 1 | | | 9.3(24) | 24(6) | | | | | 17(4) fs | 00Ba63 |

(continued) **$^{56}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ | $\beta_L$ (p,p′) | $I_\gamma$ [eVb] | $\Gamma_\circ$ [meV] | $\sigma$ ($\tau$,n) $\mu$b/sr | $\sigma$ ($\tau$,n) $\mu$b/sr | $R$ ($\tau$,n) | $N$ ($\alpha$,$^2$He) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5444(8) | | | | | | | | | | | |
| 5476(5) | $0^+$ | | | | | | | | | | |
| 5490.4(6) | | | | | | | | | | | |
| 5503(8) | | | | | | | | | | | |
| 5511.6(10) | $2^+$ | 2 | 0.05 | | | | | | | | 69Pe02 |
| 5528(5) | | | | | | | | | | | |
| 5538.07(18) | 1 | | | 7.3(16) | 20(4) | | | | | | 00Ba63 |
| 5557(5) | | | | | | | | | | | |
| 5571.4(11) | $\langle 2 \rangle$ | | | 3.4(13) | 9.2(49) | | | | | | 00Ba63 |
| 5577.5(5) | $2^+$ | | | | | | | | | | |
| 5590.06(21) | $\langle 1^+ – 3^+ \rangle$ | | | | | | | | | | |
| 5612(5) | $0^+$ | | | | | | | | | | |
| 5626.84(16) | $8^+$ | | | | | | | | | 0.069(+21-14) ps | |
| 5663(6) | | | | | | | | | | | |
| 5673(8) | | | | | | | | | | | |
| 5684(5) | | | | | | | | | | | |
| 5697(8) | | | | | | | | | | | |
| 5707.4(6) | | | | | | | | | | | |
| 5725(5) | | | | | | | | | | | |
| 5737(10) | | | | | | | | | | | |
| 5768(5) | $\langle 4^+ \rangle$ | | | | | | | | | | |
| 5795.2(10) | | | | | | | | | | | |
| 5813(7) | | | | | | | | | | | |
| 5824.3(8) | | | | | | | | | | | |
| 5851.5(4) | | | | 8.9(54) | 26(16) | | | | | 19(5) fs | 00Ba63 |
| 5863(5) | $4^+$ | 4 | 0.039 | | | | | | | | 69Pe02 |
| 5869.6(13) | | | | | | | | | | | |
| 5874.1(5) | | | | | | | | | | | |
| 5882.7(8) | | | | | | | | | | | |
| 5908(5) | | | | | | | | | | | |
| 5921.4(8) | | | | | | | | | | | |
| 5936.17(10) | $2^+$ | | | | | | | | | | |
| 5941(10) | | | | | | | | | | | |
| 5962(7) | | | | | | | | | | | |
| 5986.86(15) | $\langle 1^+ – 3^+ \rangle$ | | | | | | | | | | |
| 6002(7) | | | | | | | | | | | |
| 6013(10) | | | | | | | | | | | |
| 6024(10) | | | | | | | | | | | |
| 6041(8) | $\langle 7^- \rangle$ | | | | | | | | 110(40) | | 90Fi07 |
| 6050.7(11) | | | | | | | | | | | |
| 6055(8) | $2^+$ | | | | | | | | | | |
| 6071.6(6) | $6^+$ | 6 | 0.037 | | | | | | | | 69Pe02 |
| 6078.4(15) | $\langle 1 \rangle$ | | | 15(4) | 48(13) | | | | | 16(3) fs | 00Ba63 |
| 6092.2(6) | $\langle 3^- \rangle$ | | | | | | | | | | |
| 6102.21(15) | $\langle 0 – 3^+ \rangle$ | | | | | | | | | | |

(continued) **$^{56}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ | $\beta_L$ (p,p′) | $I_\gamma$ [eVb] | $\Gamma_\circ$ [meV] | $\sigma$ ($\tau$,n) $\mu$b/sr | $\sigma$ ($\tau$,n) $\mu$b/sr | $R$ ($\tau$,n) | $N$ ($\alpha$,$^2$He) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6110 | $0^+$ | | | | | | | | | | |
| 6115.7(7) | | | | | | | | | | | |
| 6138(7) | | | | | | | | | | | |
| 6174(7) | | | | | | | | | | | |
| 6201(10) | | | | | | | | | | | |
| 6218.2(6) | 1 | | | 25(3) | 82(11) | | | | | 13(3) fs | 00Ba63 |
| 6250.9(5) | 1 | | | 25(4) | 166(19) | | | | | 8.1(15) fs | 00Ba63 |
| 6265(8) | $4^+$ | 4 | 0.05 | | | | | | | | 69Pe02 |
| 6289(10) | | | | | | | | | | | |
| 6307.6(11) | | | | | | | | | | | |
| 6316.7(6) | | | | | | | | | | | |
| 6327.6(6) | | | | | | | | | | | |
| 6351(8) | | | | | | | | | | | |
| 6365.0(6) | 1 | | | 22(5) | 76(17) | | | | | | 00Ba63 |
| 6382(8) | | | | | | | | | | | |
| 6397(8) | | | | | | | | | | | |
| 6433.7(6) | 1 | | | 37(10) | 134(35) | | | | | | 00Ba63 |
| 6447.96(29) | $\langle 0\text{–}3^+\rangle$ | | | | | | | | | | |
| 6463(8) | | | | | | | | | | | |
| 6489(10) | $\langle 2^+\rangle$ | $\langle 2\rangle$ | 0.055 | | | | | | | | 69Pe02 |
| 6509(8) | $0^+$ | | | | | | | | | | |
| 6527(10) | | | | | | | | | | | |
| 6543(10) | | | | | | | | | | | |
| 6555(10) | | | | | | | | | | | |
| 6563(10) | $0^+$ | | | | | 250(30) | 370(80) | 0.49 | | | 75Al05 |
| 6593(12) | | | | | | | | | | | |
| 6613(10) | | | | | | | | | | | |
| 6625.10(18) | $\langle 0\text{–}3^+\rangle$ | $\langle 3\rangle$ | 0.08 | | | | | | | | 69Pe02 |
| 6652(10) | | | | | | | | | | | |
| 6662(10) | $3^-$ | | | | | | | | | | |
| 6670(12) | | | | | | | | | | | |
| 6698(1) | 1 | | | | 44(10)** | | | | | 0.65(10) fs | 84Ch14 |
| 6700(12) | $0^+$ | | | | | | | | | | |
| 6709(15) | | | | | | | | | | | |
| 6725(15) | | | | | | | | | | | |
| 6742(15) | | | | | | | | | | | |
| 6767(15) | | | | | | | | | | | |
| 6781(15) | $3^-$ | | | | | | | | | | |
| 6800(15) | $0^+$ | | | | | 140(30) | | | | | 72Ev02 |
| 6815(15) | | | | | | | | | | | |
| 6843(15) | | | | | | | | | | | |
| 6856(15) | | | | | | | | | | | |
| 6878(15) | $\langle 3^-\rangle$ | | | | | | | | | | |
| 6916(15) | | | | | | | | | | | |
| 6925.4(3) | $1^-$ | | | 162(5) | 750(31) | | | | | 1.10(29) eV | 00Ba63 |

(continued) **$^{56}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ | $\beta_L$ (p,p′) | $I_\gamma$ [eVb] | $\Gamma_\circ$ [meV] | $\sigma$ ($\tau$,n) $\mu$b/sr | $\sigma$ ($\tau$,n) $\mu$b/sr | $R$ ($\tau$,n) | $N$ ($\alpha$,$^2$He) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6940(15) | | | | | | | | | | | |
| 6977.4(5) | 1 | 3 | 0.05 | 36(6) | 153(25) | | | | | | 69Pe02 |
| 6981.68(20) | ⟨0–3$^+$⟩ | | | | | | | | | | |
| 6994(15) | | | | | | | | | | | |
| 7013(15) | | | | | | | | | | | |
| 7036(15) | | | | | | | | | | | |
| 7055(15) | | | | | | | | | | | |
| 7061.6(4) | 1$^+$ | | | | 110(20)** | | | | | 0.41(8) fs | 84Ch14 |
| 7077(15) | | | | | | | | | | | |
| 7084.6(12) | | | | | | | | | | | |
| 7090(15) | | | | | | | | | | | |
| 7102(15) | | | | | | | | | | | |
| 7124(15) | 0$^+$ | | | | | | | | | | |
| 7134.6(7) | 1 | | | 29(7) | 130(31) | | | | | 8.1(15) fs | 00Ba63 |
| 7154(15) | | | | | | | | | | | |
| 7167.27(24) | 1$^-$ | | | 39(5) | 175(22) | | | | | 5.1(9) fs | 00Ba63 |
| 7170 | | | | | | | | | | | |
| 7189(15) | | | | | | | | | | | |
| 7204(15) | | | | | | | | | | | |
| 7211.1(3) | 1$^+$ | | | 112(7) | 613(38) | | | | | 0.77(22) eV | 00Ba63 |
| 7220 | 0$^+$ | | | | | | | | | | |
| 7249.4(5) | 1$^+$ | | | 48(7) | 219(34) | | | | | 2.3(3) fs | 00Ba63 |
| 7285.8(4) | | | | | | | | | | 1.6(7) fs | |
| 7282.2(7)* | 1 | | | 58(9) | 266(41) | | | | | | 00Ba63 |
| 7290 | 0$^+$ | | | | | | | | | | |
| 7312(15) | | | | | | | | | | | |
| 7392.5(4) | 1 | | | 34(6) | 161(27) | | | | | | 00Ba63 |
| 7422.67(22) | ⟨1,2$^+$⟩ | | | | | | | | | | |
| 7446.2(6) | 1 | | | 39(6) | 189(30) | | | | | 2.7(8) fs | 00Ba63 |
| 7467.6(5) | 1$^+$ | | | 54(11) | 260(55) | | | | | 2.5(4) fs | 00Ba63 |
| 7475(15) | ⟨3$^-$⟩ | ⟨3⟩ | 0.051 | | | | | | | | 71Ma16 |
| 7580 | | | | | | | | | | | |
| 7630 | 3$^-$ | | | | | | | | | | |
| 7689.8(5) | 1 | | | 25(6) | 128(32) | | | | | | 00Ba63 |
| 7720 | | | | | | | | | | | |
| 7763.6(6) | ⟨1⟩ | | | 33(13) | 170(69) | | | | | | 00Ba63 |
| 7840 | | | | | | | | | | | |
| 7870 | 2$^+$ | | | | | | | | | | |
| 7886.54(23) | ⟨1⟩ | | | 73(17) | 396(92) | | | | | 1.6(3) fs | 00Ba63 |
| 7917.9(4)* | 1$^+$ | | | 70(7) | 380(39) | | | | | | 00Ba63 |
| 8011.9(6) | 1 | | | 73(8) | 547(48) | | | | | | 00Ba63 |
| 8110(30) | 0$^+$ | | | | | 120(20) | 290(70) | 0.34 | | | 75Al05 |
| 8119.6(8) | 1,2$^+$ | | | 68(9) | 391(52) | | | | | | 00Ba63 |
| 8128.7(4) | 1$^-$ | | | 266(11) | 1526(61) | | | | | 3.55(74) eV | 00Ba63 |
| 8138.22(26) | | | | | | | | | | | |

(continued) **$^{56}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ | $\beta_L$ (p,p′) | $I_\gamma$ [eVb] | $\Gamma_\circ$ [meV] | $\sigma$ ($\tau$,n) $\mu$b/sr | $\sigma$ ($\tau$,n) $\mu$b/sr | $R$ ($\tau$,n) | $N$ ($\alpha$,$^2$He) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8219.4(6) | 1 | | | 64(10) | 372(58) | | | | | | 00Ba63 |
| 8239.4(6) | $1^-$ | | | 509(12) | 3257(81) | | | | | 5.75(92) eV | 00Ba63 |
| 8247.76(29) | $\langle 0\text{–}3^+\rangle$ | | | | | | | | | | |
| 8309.59(24) | $1^+$ | | | 74(9) | 445(51) | | | | | 1.9(6) fs | 00Ba63 |
| 8343.3(6)* | 1 | | | 59(9) | 357(52) | | | | | | 00Ba63 |
| 8447.87(23) | $\langle 0\text{–}3^+\rangle$ | | | | | | | | | | |
| 8535.95(22) | $1^-$ | | | 395(16) | 2714(112) | | | | | 4.92(95) eV | 00Ba63 |
| 8554.7(9)* | 1 | | | 51(10) | 327(65) | | | | | | 00Ba63 |
| 8652.5(8)* | 1 | | | 62(11) | 403(70) | | | | | | 00Ba63 |
| 8758.47(19) | $\langle 0\text{–}3^+\rangle$ | | | | | | | | | | |
| 8766.1(8) | 1 | | | 97(12) | 649(78) | | | | | 1.1(2) fs | 00Ba63 |
| 8879.3(9) | 1 | | | 59(10) | 402(68) | | | | | 1.5(4) fs | 00Ba63 |
| 8909.9(3) | $\langle 1\rangle^{\langle +\rangle}$ | | | 94(46) | 647(316) | | | | | 0.97(21) fs | 00Ba63 |
| 8963.6(7) | 1 | | | 65(12) | 454(82) | | | | | 1.2(2) fs | 00Ba63 |
| 8972.2(11)* | 1 | | | 25(11) | 173(77) | | | | | | 00Ba63 |
| 8988.9(6)* | 1 | | | 91(10) | 639(72) | | | | | 1.5(3) fs | 00Ba63 |
| 9107.8(8) | $1^{\langle -\rangle}$ | | | 116(11) | 838(78) | | | | | 0.53(11) fs | 00Ba63 |
| 9137.6(5) | $1^-$ | | | 117(12) | 844(87) | | | | | 1.28(17) eV | 00Ba63 |
| 9156.8(10) | $1^{\langle -\rangle}$ | | | 190(17) | 1384(122) | | | | | 0.47(15) fs | 00Ba63 |
| 9200(30) | $0^+$ | | | | | 200(40) | 270(80) | 0.30 | | | 75Al05 |
| 9280(50) | $\langle 8^+\rangle$ | | | | | | | | 190(40) | | 90Fi07 |
| 9287.6(10) | $1^-$ | | | 120(11) | 899(81) | | | | | 0.61(14) fs | 00Ba63 |
| 9312.2(8) | 1 | | | 116(12) | 869(88) | | | | | 0.71(14) fs | 00Ba63 |
| 9323.7(7) | 1 | | | 102(12) | 767(88) | | | | | 0.70(15) fs | 00Ba63 |
| 9402.0(6) | 1 | | | 89(12) | 1305(155) | | | | | 0.70(16) fs | 00Ba63 |
| 9434.9(23) | | | | 41(9) | 313(71) | | | | | | 00Ba63 |
| 9557.62(21) | 1 | | | 86(15) | 680(119) | | | | | 1.2(4) fs | 00Ba63 |
| 9622.9(25) | 1 | | | 59(10) | 473(83) | | | | | | 00Ba63 |
| 9664.7(9) | | | | 53(9) | 429(75) | | | | | | 00Ba63 |
| 9732.2(16) | | | | 63(19) | 521(152) | | | | | 0.48(13) fs | 00Ba63 |
| 9741.7(13)* | $\langle 1\rangle$ | | | 61(16) | 1618(222) | | | | | | 00Ba63 |
| 9768.2(7) | | | | 41(19) | 336(158) | | | | | 1.0(3) fs | 00Ba63 |
| 9895(5) | | | | | 410(120)** | | | | | 1.1(3) fs | 84Ch14 |
| 9900(50) | $\langle 6^+\rangle$ | | | | | | | | 180(40) | | 90Fi07 |
| 9948(5) | | | | | 750(200)** | | | | | 0.61(14) fs | 84Ch14 |
| 9969(5) | | | | | 310(100)** | | | | | 1.5(5) fs | 84Ch14 |
| 10060(5) | | | | | 560(160)** | | | | | 0.81(23) fs | 84Ch14 |
| 10497(3) | 1 | | | | | | | | | 3.44(64) eV | |
| 11133(3) | 1 | | | | | | | | | 2.08(52) eV | |
| 11480 | $3^+$ | | | | | | | | | | |
| 11509(4) | $3^+$ | | | | | | | | | | |
| 11597(4) | $1^+$ | | | | | | | | | | |
| 11599.22(17) | $1^+$ | | | | | | | | | | |
| 11601(4) | $1^+$ | | | | | | | | | | |
| 11604.13(17) | $1^+$ | | | | | | | | | | |

(continued) **$^{56}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ | $\beta_L$ (p,p′) | $I_\gamma$ [eVb] | $\Gamma_\circ$ [meV] | $\sigma$ ($\tau$,n) $\mu$b/sr | $\sigma$ ($\tau$,n) $\mu$b/sr | $R$ ($\tau$,n) | $N$ ($\alpha$,$^2$He) | $T_{1/2}$ or $\Gamma_{\rm cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11610.02(17) | | | | | | | | | | | |
| 11612.97(17) | $1^+$ | | | | | | | | | | |
| 11617.88(17) | | | | | | | | | | | |
| 11661 | $4^+$ | | | | | | | | | | |
| 11665 | $2^+$ | | | | | | | | | | |
| 11688.6(4) | $4^+$ | | | | | | | | | | |
| 11694(4) | $2^+$ | | | | | | | | | ≈9 keV | |
| 11804 | $3^+$ | | | | | | | | | | |
| 11832(4) | $4^+$ | | | | | | | | | ≈17 keV | |
| 11840(4) | $4^+$ | | | | | | | | | | |
| 11848(4) | $3^+$ | | | | | | | | | | |
| 11918(4) | $3^+$ | | | | | | | | | ≈11 keV | |
| 11958(4) | $3^+$ | | | | | | | | | ≈11 keV | |
| 12440(30) | | | | | | | | | | | |
| 12520(30) | | | | | | | | | | | |
| | | | | 00Ba63 | 00Ba63 | 72Ev02 | 75Al05 | 75Al05 | | | Ref. |
| | | | | | | | | | 90Fi07 | | Ref. |

Additional data on this isotope can be found in [04Mi10, 03Kr11, 00Ma82, 98De16, 94Is09, 85Ja02, 81Bi04, 71Ma16, 69Pe02].

*Abundance:* 91.754(36) %.

* Not included in Adopted Levels [99Hu04].

** $\Gamma_o/\Gamma^2$ from [84Ch14] instead of $\Gamma_o$.

For cross sections of two-nucleon transfer reaction $\sigma$ ($\tau$,n) ratios R=$d\sigma/d\Omega_{exp}/d\sigma/d\Omega_{DWBA}$ are presented [75Al05].

Parameter N=($d\sigma/d\Omega$ (exp)/$d\sigma/d\Omega$ (DWBA)) has a meaning of $S_{\rm N}$ in the case of two-neutron transfer reaction ($\alpha$,$^2$He).

Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [99Hu04]. Part 2 **$^{56}_{26}$Fe**

| $E^*$ | $J^\pi$ | | Branching ratios in percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_{\rm f}^*$: | 0.0 | 846.8 | 2085 | 2658 | 2941 | 2960 | 3120 | 3123 | 3370 | 3388 |
| [keV] | | $J_{\rm f}^\pi$: | $0^+$ | $2^+$ | $4^+$ | $2^+$ | $0^+$ | $2^+$ | $\langle 1^+\rangle$ | $4^+$ | $2^+$ | $6^+$ |
| 846.776(5) | $2^+$ | | 100 | | | | | | | | | |
| 2085.08(1) | $4^+$ | | | 100 | | | | | | | | |
| 2657.56(1) | $2^+$ | | 3.1(9) | 97(2) | | | | | | | | |
| 2941.50(3) | $0^+$ | | x | 100 | | | | | | | | |
| 2959.92(1) | $2^+$ | | 2.1(1) | 98(3) | | | | | | | | |
| 3076.2(4) | $\langle 3^-\rangle$ | | | 68(9) | 32(9) | | | | | | | |
| 3120.11(5) | $\langle 1^+\rangle$ | | 4.6(1) | 95(1) | | <1.00 | | | | | | |
| 3122.93(1) | $4^+$ | | | 0.9(1) | 99.1 | | | | | | | |
| 3369.84(4) | $2^+$ | | 15(1) | 85(3) | | | | | | | | |

(continued) **$^{56}_{26}$Fe**

| $E^*$ | $J^\pi$ | | | | | Branching ratios in percentage | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 0.0 | 846.8 | 2085 | 2658 | 2941 | 2960 | 3120 | 3123 | 3370 | 3388 |
| [keV] | | $J_f^\pi$: | $0^+$ | $2^+$ | $4^+$ | $2^+$ | $0^+$ | $2^+$ | $\langle 1^+ \rangle$ | $4^+$ | $2^+$ | $6^+$ |
| 3388.55(5) | $6^+$ | | | | 99(4) | | | | | 1.3(3) | | |
| 3445.31(1) | $3^+$ | | | 78.8(3) | 19.8(1) | 1.4(1) | | | | | | |
| 3448.41(6) | $1^+$ | | 75(2) | 25(2) | | <0.5 | | | | | | |
| 3600.21(7) | $\langle 1,2^+ \rangle$ | | 83(3) | 17(3) | <2.0 | <2.0 | | | | | | |
| 3605.69(6) | $2^+$ | | 33(3) | 59(3) | <0.8 | 8(1) | | | | | | |
| 3610.21(19) | $0^{\langle + \rangle}$ | | <7.0 | 100 | <0.7 | <1.5 | | | | | | |
| 3744.13(24) | $2^+$ | | | 100 | | | | | | | | |
| 3755.57(4) | $6^+$ | | | | 82(3) | | | | | ≤2 | | 18(1) |
| 3829.77(9) | $2^+$ | | 18(2) | 52(5) | | 30(5) | | | | | | |
| 3856.45(1) | $3^+$ | | | 5.9(1) | 91.6(3) | 0.3(1) | | 0.6(1) | | 1.15(6) | 0.36(5) | |
| 4048.83(1) | $3^+$ | | | 81(2) | 18.2(3) | | | 1.3(1) | | | | |
| 4085.9(2) | $\langle 1,2^+ \rangle$ | | 25(6) | 75(6) | | | | | | | | |
| 4100.31(1) | $4^+$ | | | 61(2) | 24.38 | 1.4(1) | | 1.0(2) | | 11.51(11) | | |
| 4119.87(1) | $3^+$ | | | 17.9(6) | 78.4(3) | 0.9(1) | | 1.0(1) | | 1.30(14) | | |
| 4298.04(1) | $4^+$ | | | 25(1) | 10.6(2) | 1.9(2) | | | | 60.9(3) | | |
| 4300.9(10) | $0^+$ | | | 100 | | | | | | | | |
| 4394.83(6) | $3^+$ | | | 88(4) | | | | | | 12(3) | | |
| 4401.40(12) | $2^+$ | | | 60(2) | <3.8 | | 4.7 | 7(1) | | | <1.2 | |
| 4447.6(4) | | | | 100 | | | | | | | | |
| 4458.53(1) | $4^+$ | | | 3.9(2) | 38(5) | | | | | 59(2) | | |
| 4509.64(12) | $3^-$ | | | 31(2) | 16(2) | 50(2) | | | | | | |
| 4539.5(6) | $1^+,2^+$ | | 13(3) | | | 30.0(50) | | 57(8) | | | | |
| 4554.08(17) | $2^+$–$4^+$ | | | | 78(5) | | | | | 15(5) | | |
| 4612.3(7) | $4^+$ | | | 47(10) | | | | 53(10) | | | | |
| 4658.26(7) | $2^+$–$4^+$ | | <2.0 | 40(3) | 60(3) | <2.0 | | <3 | | | <2.0 | |
| 4684.7(10) | $4^+$ | | | | | | | 100 | | | | |
| 4700.63(13) | $7^+$ | | | | | | | | | | | 84(4) |
| 4728.14(18) | $2^+$ | | 10(3) | 90(3) | | | | | | | | |
| 4730.0(10) | $0^+$ | | | 100 | | | | | | | | |
| 4739.6(7) | $2^+$–$4^+$ | | | | | 80 | | | | 20 | | |
| 4784.12(25) | $\langle 1,2^+ \rangle$ | | 44(4) | 46(4) | | | | | 10(3) | | | |
| 4846.1(8) | | | x | | | | | | | | | |
| 4866.52(3) | $\langle 1,2^+ \rangle$ | | 3(1) | 51(1) | <0.40 | 3(1) | | 28(1) | 1.1(3) | | 4.0(2) | |
| 4878.0(6) | $2^+$ | | 19(5) | 34(5) | 27(4) | | | 20 | | | | |
| 5023.49(3) | $\langle 1,2 \rangle^+$ | | 7.4(8) | 2.7(5) | | <0.80 | | 38(2) | <1.00 | | 25(1) | |
| 5122.11(10) | $5^-$ | | | | 100 | | | | | | | |
| 5148.1(10) | | | | | 100 | | | | | | | |
| 5194.80(18) | $\langle 1,2^+ \rangle$ | | | 39(3) | | 25(2) | 18(2) | | 9(2) | | | |
| 5227.8(4) | 1 | | x | | | | | | | | | |
| 5231.2(10) | | | | 100 | | | | | | | | |
| 5255.7(4) | $8^+$ | | | | | | | | | | | 75(6) |
| 5257.1(5) | $2^+$ | | 50(10) | 50(10) | | | | | | | | |
| 5306.6(7) | | | | | x | | | | | | | |
| 5403.6(8) | 1 | | | | | | 100 | | | | | |
| 5511.6(10) | $2^+$ | | | | | | | | | | 100 | |

(continued) **$^{56}_{26}$Fe**

| $E^*$ | $J^\pi$ | Branching ratios in percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | $E_f^*$: | 0.0 | 846.8 | 2085 | 2658 | 2941 | 2960 | 3120 | 3123 | 3370 | 3388 |
| [keV] | $J_f^\pi$: | $0^+$ | $2^+$ | $4^+$ | $2^+$ | $0^+$ | $2^+$ | $\langle 1^+ \rangle$ | $4^+$ | $2^+$ | $6^+$ |
| 5538.07(18) | 1 | 38(3) | 22(2) | | 27(2) | | | | | 13(2) | |
| 5590.06(21) | $\langle 1^+–3^+ \rangle$ | | 16(4) | | 40(4) | | | | | 11(3) | |
| 5626.84(16) | $8^+$ | | | | | | | | | | 8(2) |
| 5795.2(10) | | | 100 | | | | | | | | |
| 5851.5(4) | | x | | | | | | | | | |
| 5869.6(13) | | | | | | | | x | | | |
| 5936.17(10) | $2^+$ | | 67(2) | | | | | | | | |
| 5986.86(15) | $\langle 1^+–3^+ \rangle$ | | 32(4) | | | | | | | | |
| 6078.4(15) | $\langle 1 \rangle$ | x | | | | | | | | | |
| 6092.2(6) | $\langle 3^- \rangle$ | | | x | | | | | | x | |
| 6102.21(15) | $\langle 0–3^+ \rangle$ | | 20(4) | | | | | | | | |
| 6218.2(6) | 1 | x | | | | | | | | | |
| 6250.9(5) | 1 | 61(16) | 39(16) | | | | | | | | |
| 6447.96(29) | $\langle 0–3^+ \rangle$ | | | | | | | 47(9) | | | |
| 6625.10(18) | $\langle 0–3^+ \rangle$ | | | | | | 34(5) | | | | |
| 6698(1) | 1 | x | x | | | | | | | | |
| 6925.4(3) | $1^-$ | $\langle 100 \rangle$ | | | | | | | | | |
| 6981.68(20) | $\langle 0–3^+ \rangle$ | | 54(10) | | 46(10) | | | | | | |
| 7134.6(7) | 1 | x | | | | | | | | | |
| 7167.27(24) | $1^-$ | 65(8) | 35(8) | | | | | | | | |
| 7211.1(3) | $1^+$ | x | 100 | | | | | | | | |
| 7220 | $0^+$ | | 54(12) | | | | | | | | |
| 7249.4(5) | $1^+$ | x | | | | | | | | | |
| 7422.67(22) | $\langle 1,2^+ \rangle$ | 15(7) | 85(15) | | | | | | | | |
| 7446.2(6) | 1 | x | | | | | | | | | |
| 7467.6(5) | $1^+$ | x | | | | | | | | | |
| 7886.54(23) | $\langle 1 \rangle$ | 70(10) | | | | | | | | | |
| 8128.7(4) | $1^-$ | $\langle 100 \rangle$ | | | | | | | | | |
| 8239.4(6) | $1^-$ | $\langle 100 \rangle$ | | | | | | | | | |
| 8247.76(29) | $\langle 0–3^+ \rangle$ | | 100 | | | | | | | | |
| 8309.59(24) | $1^+$ | 26(8) | 74(8) | | | | | | | | |
| 8447.87(23) | $\langle 0–3^+ \rangle$ | | 100 | | | | | | | | |
| 8758.47(19) | $\langle 0–3^+ \rangle$ | | | | | | | | | 32(16) | |
| 8766.1(8) | 1 | x | | | | | | | | | |
| 8879.3(9) | 1 | x | | | | | | | | | |
| 8909.9(3) | $\langle 1 \rangle^{\langle + \rangle}$ | 100 | | | | | | | | | |
| 8963.6(7) | 1 | x | | | | | | | | | |
| 8988.9(6)* | 1 | x | | | | | | | | | |
| 9107.8(8) | $1^{\langle - \rangle}$ | x | | | | | | | | | |
| 9137.6(5) | $1^-$ | x | | | | | | | | | |
| 9156.8(10) | $1^{\langle - \rangle}$ | x | x | | | | | | | | |
| 9287.6(10) | $1^-$ | x | | | | | | | | | |
| 9312.2(8) | 1 | x | | | | | | | | | |
| 9323.7(7) | 1 | x | | | | | | | | | |
| 9402.0(6) | 1 | x | | | | | | | | | |

(continued) **$^{56}_{26}$Fe**

| $E^*$ | $J^\pi$ | | Branching ratios in percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 0.0 | 846.8 | 2085 | 2658 | 2941 | 2960 | 3120 | 3123 | 3370 | 3388 |
| [keV] | | $J_f^\pi$: | $0^+$ | $2^+$ | $4^+$ | $2^+$ | $0^+$ | $2^+$ | $\langle 1^+ \rangle$ | $4^+$ | $2^+$ | $6^+$ |
| 9557.62(21) | 1 | | x | | | | | | | | | |
| 9664.7(9) | | | x | | | | | | | | | |
| 9732.2(16) | | | x | | | | | | | | | |
| 9768.2(7) | | | x | | | | | | | | | |
| 9895(5) | | | x | | | | | | | | | |
| 9948(5) | | | x | | | | | | | | | |
| 9969(5) | | | x | | | | | | | | | |
| 10060(5) | | | x | | | | | | | | | |
| 10497(3) | 1 | | x | | | | | | | | | |
| 11133(3) | 1 | | $\langle 100 \rangle$ | | | | | | | | | |

Energy levels and branching ratios [99Hu04]. Part 3 **$^{56}_{26}$Fe**

| $E^*$ | $J^\pi$ | | Branching ratios in percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 3445 | 3448 | 3600 | 3606 | 3610 | 3756 | 3830 | 3856 | 4049 | 4120 |
| [keV] | | $J_f^\pi$: | $3^+$ | $1^+$ | $\langle 1,2^+ \rangle$ | $2^+$ | $0^{\langle + \rangle}$ | $6^+$ | $2^+$ | $3^+$ | $3^+$ | $3^+$ |
| 3856.45(1) | $3^+$ | | 0.15(3) | | | | | | | | | |
| 4100.31(1) | $4^+$ | | 0.31(6) | | | | | | | | | |
| 4119.87(1) | $3^+$ | | 0.38(7) | | | | | | | 0.22(4) | | |
| 4298.04(1) | $4^+$ | | 1.36(8) | | | | | | | | | |
| 4401.40(12) | $2^+$ | | 28(2) | | | | | | | | | |
| 4509.64(12) | $3^-$ | | 3(2) | | | | | | | | | |
| 4554.08(17) | $2^+$–$4^+$ | | 8(5) | | | | | | | | | |
| 4658.26(7) | $2^+$–$4^+$ | | <2.0 | | | | | | | | | |
| 4700.63(13) | $7^+$ | | | | | | | 16(2) | | | | |
| 4866.52(3) | $\langle 1,2^+ \rangle$ | | 0.9(3) | 8.2(3) | 0.5(2) | | | | | | | |
| 4887.1(12) | | | | | | | | | 100 | | | |
| 5023.49(3) | $\langle 1,2 \rangle^+$ | | | 24.0(9) | | | | | x | | | 3.0(9) |
| 5186.3(10) | $1^-$ | | | | | | | | | | 100 | |
| 5194.80(18) | $\langle 1,2^+ \rangle$ | | | | | | 9(2) | | | | | |
| 5255.7(4) | $8^+$ | | | | | | | 25(6) | | | | |
| 5590.06(21) | $\langle 1^+$–$3^+ \rangle$ | | 13(4) | 20(4) | | | | | | | | |
| 5626.84(16) | $8^+$ | | | | | | | 4(4) | | | | |
| 5936.17(10) | $2^+$ | | | | | | | | | 33(2) | | |
| 5986.86(15) | $\langle 1^+$–$3^+ \rangle$ | | 48(3) | | | | | | | | | |
| 6092.2(6) | $\langle 3^- \rangle$ | | | x | | | | | | | | |
| 6102.21(15) | $\langle 0$–$3^+ \rangle$ | | | 52(3) | | 28(3) | | | | | | |
| 6447.96(29) | $\langle 0$–$3^+ \rangle$ | | | | 28(5) | 14(5) | | | 10(5) | | | |
| 6625.10(18) | $\langle 0$–$3^+ \rangle$ | | 21(3) | | 45(5) | | | | | | | |
| 7220 | $0^+$ | | | | 46(12) | | | | | | | |
| 8758.47(19) | $\langle 0$–$3^+ \rangle$ | | | | 35(16) | | | | | | | |

Energy levels and branching ratios [99Hu04]. Part 4 **$^{56}_{26}$Fe**

| $E^*$ | $J^\pi$ | Branching ratios in percentage | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $E_f^*$: | 4298.0 | 4539.5 | 4700.6 | 4784.1 | 5255.7 | 5936.2 | 6115.7 |
| [keV] | $J_f^\pi$: | $4^+$ | $1^+$,$2^+$ | $7^+$ | $\langle 1,2^+\rangle$ | $8^+$ | $2^+$ | |
| 5306.6(7) | | x | | | | | | |
| 5626.84(16) | $8^+$ | | | 88(2) | | | | |
| 5986.86(15) | $\langle 1^+$–$3^+\rangle$ | | 20(3) | | | | | |
| 6115.7(7) | | | | | | 100 | | |
| 7084.6(12) | | | | | | | | 100 |
| 7886.54(23) | $\langle 1\rangle$ | | | | | | 30(10) | |
| 8758.47(19) | $\langle 0$–$3^+\rangle$ | | | | 32(16) | | | |

Energy levels and branching ratios [98Bh11]. **$^{57}_{26}$Fe**

| $E^*$ | $2J^\pi$ | $L$ | $S'$ | $\sigma$ (d,p) | $L$ | $S_N$ | $\sigma$ (d,p) | $S'$ | $L$ | $C^2S$ | $T_{1/2}$ or | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| [keV] | | | (d,p) | $\mu$b/sr | | (d,p) | $\mu$b/sr | (d,p) | | (p,d) | $\Gamma_{cm}$ | |
| 0.0 | $1^-$ | 1 | 0.26** | 5976 | 1 | 0.143 | 9260 | 0.287 | | | Stable | 73De23 |
| 14.4129(6) | $3^-$ | 1 | 1.5** | incl | 1 | 0.415 | | 1.66 | | | 98.3(3) ns | 73De23 |
| 136.4743(5) | $5^-$ | 3 | 2.450 | 1080 | 3 | 0.594 | 1050 | 3.56 | 3 | 0.80 | 8.7(3) ns | 71Se01 |
| 366.759(7) | $3^-$ | 1 | 0.755 | 3884 | 1 | 0.253 | 4970 | 1.01 | 1 | 0.48 | 10.5(14) ps | 71Se01 |
| 706.42(2) | $5^-$ | 3 | 0.172 | 74 | | | | | 3 | | 4.1(11) ps | 71Se01 |
| 1007.13(4) | $7^-$ | | | | | | | | | | 0.13(7) ps | |
| 1139.9(10) | | | | | | | | | | | | |
| 1197.81(13) | $9^-$ | | | | | | | | | | 2.9(4) ps | |
| 1265.52(13) | $1^-$ | 1 | 0.525 | 3984 | 1 | 0.371 | 4380 | 0.742 | 1 | 0.21 | 82(19) fs | 64Le10 |
| 1356.83(18) | $7^-$ | 3 | 0.301 | 141 | 3 | 0.049 | 140 | 0.393 | | | 0.18(7) ps | 71Se01 |
| 1627.26(2) | $3^-$ | 1 | 0.090 | 896 | 1 | 0.025 | 620 | 0.100 | | | 56(8) fs | 71Se01 |
| 1725.38(3) | $3^-$ | 1 | 0.154 | 1494 | 1 | 0.044 | 1160 | 0.176 | | | 31(4) fs | 71Se01 |
| 1976.6(2) | $\langle 1^-$–$5^-\rangle$ | | | 131 | | | | | | | | 71Se01 |
| 1989.7(2) | $9^-$ | | | | | | | | | | 0.2(1) ps | |
| 1991(5) | $1^-$,$3^-$ | 1 | 0.016 | | | | | | | | | 71Se01 |
| 2113.1(2) | $\langle 1$–$5^-\rangle$ | | | | | | 94 | | | | | 74Th03 |
| 2118.6(5) | $5^-$ | 3 | 0.290 | 158 | 3 | 0.039 | incl | 0.234 | | | 46(12) fs | 71Se01 |
| 2206.9(1) | $5^-$ | 3 | 0.405 | 220 | 3 | 0.066 | 140 | 0.396 | | | 10(3) fs | 71Se01 |
| 2217.7(2) | $\langle 5^+\rangle$ | | | | | | | | | | | |
| 2220.2 | $\langle 7^-\rangle$ | | | | | | | | 3 | 4.4 | >0.3 ps | 65Sh06 |
| 2330.4(2) | $\langle 1$–$5^+\rangle$ | | | 174 | | | | | | | | 71Se01 |
| 2355.96(5) | $\langle 11\rangle^-$ | | | | | | | | | | 0.06(2) ps | |
| 2358(12) | $1^-$,$3^-$ | 1 | 0.016 | | | | | | | | | 71Se01 |
| 2455.5(2) | $9^+$ | | | 1162 | 4 | 0.447 | 1390 | 4.47 | | | >1.4 ps | 71Se01 |
| 2456(5) | $1^+$–$9^+$ | 0 | 0.014 | incl | | | | | | | | 74Th03 |
| | | +4 | 2.7 | | | | | | | | | 74Th03 |
| 2505.3(1) | $5^+$ | 2 | 0.658 | 3818 | 2 | 0.114 | 3070 | 0.684 | | | 78(18) fs | 71Se01 |
| 2564.2(2) | $3^-$ | 1 | 0.21 | 1577 | 1 | 0.028 | 780 | 0.112 | | | | 71Se01 |
| 2574.5(4) | $\langle 1$–$5^-\rangle$ | | | | | | | | | | 18(4) fs | |

(continued) **$^{57}_{26}$Fe**

| $E^*$ [keV] | $2J^\pi$ | $L$ | $S'$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $L$ | $S_N$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S'$ (d,p) | $L$ | $C^2S$ (p,d) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2593.6(6) | $\langle 3^-,5^-\rangle$ | | | | | | | | | | 37(10) fs | |
| 2599.4(3) | $\langle 1–5^+\rangle$ | | | | | | | | | | | |
| 2697.2(2) | $1^-$ | 1 | 0.667 | 6225 | 1 | 0.378 | 5570 | 0.092 | | | 6(2) fs | 71Se01 |
| 2758.3(1) | | | | | | | | | | | | |
| 2821.1(2) | $\langle 1–5^+\rangle$ | | | | | | | | | | 60(+20-10) fs | |
| 2835.9(1) | 3,5 | | | | | | | | | | | |
| 2855.0(4) | | | | | | | | | | | | |
| 2878.7(4) | $\langle 13\rangle^-$ | | | | | | | | | | <0.14 ps | |
| 2904.28(24) | | | | | | | | | | | | |
| 2921.20(10) | $1^-,3^-$ | 1 | 0.188 | 1660 | | | | | | | 33(6) fs | 71Se01 |
| 2970.89(22) | $\langle 1–5^+\rangle$ | | | | | | | | | | | |
| 2987.95(15) | $\langle 1–5^+\rangle$ | | | | | | | | | | | |
| 3059.1(3) | $1^+$ | 0 | 0.004 | 43 | | | | | | | | 71Se01 |
| 3098.95(15) | | | | | | | | | | | | |
| 3104* | $[5^+]$ | [2] | 0.018 | 116 | | | | | | | | 71Se01 |
| 3110(5)* | $[9^+]$ | [4] | 0.177 | incl | | | | | | | | 71Se01 |
| 3122.76(21) | | | | | | | | | | | | |
| 3134.8(4) | $\langle 15\rangle^-$ | | | | | | | | | | 160(7) ps | |
| 3182.77(20) | $1^-,3^-$ | 1 | 0.025 | 234 | | | | | | | | 71Se01 |
| 3205.6(5) | $5^-,7^-$ | 3 | 0.077 | 54 | | | | | 3 | | | 71Se01 |
| 3239.89(12) | $1^+$ | 0 | 0.018 | 231 | | | | | | | | 71Se01 |
| 3269.26(13) | $\langle 13\rangle^+$ | | | | | | | | | | 0.37(+21-11) ps | |
| 3284(5) | | | | | | | | | | | | |
| 3301.77(10) | $\langle 5^-,7^-\rangle$ | | | | | | | | | | | |
| 3322.48(11) | $1^-,3^-$ | 1 | 0.056 | 589 | | | | | | | | 71Se01 |
| 3336.59(25) | | | | | | | | | | | | |
| 3340.33(18) | | | | | | | | | | | | |
| 3345 | $7^+,9^+$ | 4 | 0.141 | 67 | | | | | | | | 71Se01 |
| 3371.11(16) | $3^-$ | 1 | 0.115 | 1148 | 1 | 0.023 | 600 | 0.096 | | | | 71Se01 |
| 3427.68(8) | $3^-$ | 1 | 0.129 | 1296 | 1 | 0.024 | 720 | 0.088 | | | 3.0(+6-29) fs | 71Se01 |
| 3452(5) | | | | | | | | | | | | |
| 3473(5) | $5^-,7^-$ | 3 | 0.197 | 165 | | | | | | | | 71Se01 |
| 3513.8(4) | $\langle 17\rangle$ | | | | | | | | | | <0.14 ps | |
| 3535(5) | $7^+,9^+$ | 4 | 0.041 | | | | | | | | | 71Se01 |
| 3535.92(18) | | | | | | | | | | | | |
| 3548(5) | $7^+,9^+$ | 4 | 0.054 | 21 | | | | | | | | 71Se01 |
| 3561.34(12) | | | | 28 | | | | | | | | 71Se01 |
| 3608(5) | $7^+,9^+$ | 4 | 0.043 | 22 | | | | | | | | 71Se01 |
| 3608.51(21) | | | | | | | | | | | | |
| 3661(5) | | | | | | | | | | | | |
| 3752(5) | $7^+,9^+$ | 4 | 0.018 | 18 | | | | | | | | 71Se01 |
| 3784(10)* | $[9^+]^+$ | 4 | 0.010 | 10 | | | | | | | | 71Se01 |
| 3791.6(1)* | $3^+$ | 2 | 0.010 | 10 | | | | | | | | 71Se01 |
| 3827(10) | $5^-,7^-$ | 3 | 0.068 | | | | | | | | | 71Se01 |
| 3862.42(19) | | | | | | | | | | | | |

(continued) **$^{57}_{26}$Fe**

| $E^*$ [keV] | $2J^\pi$ | $L$ | $S'$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $L$ | $S_N$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S'$ (d,p) | $L$ | $C^2S$ (p,d) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3881(10) | | | | | | | | | | | | |
| 3902(10) | $5^-$,$7^-$ | 3 | 0.132 | 110 | | | | | | | | 71Se01 |
| 3926.0(20) | $\langle 1–5^-\rangle$ | | | | | | | | | | | |
| 3936.1(7) | $5^-$,$7^-$ | 3 | 0.053 | 48 | | | | | | | | 71Se01 |
| 3981.18(24) | $3^-$ | 1 | 0.124 | 1324 | 1 | 0.022 | 910 | 0.546 | | | 7(12) fs | 71Se01 |
| 4042.60(24) | $5^-$,$7^-$ | 3 | 0.054 | 47 | | | | | | | | 71Se01 |
| 4081(10) | | | | | | | | | | | | |
| 4093(10) | | | | | | | | | | | | |
| 4136.62(10) | $\langle 1–5^+\rangle$ | | | | | | | | | | | |
| 4138.57(18) | $5^+$ | 2 | 0.678 | 4858 | | | | | | | 15(8) fs | 71Se01 |
| 4144.3(5) | $\langle 1–5^+\rangle$ | | | | 2 | 0.091 | 3670 | 0.130 | | | | 74Th03 |
| 4209.59(12) | $\langle 3\rangle^-$ | 1 | 0.030 | 300 | | | | | | | | 71Se01 |
| 4239(10) | $3^+$,$5^+$ | 2 | 0.070 | 610 | | | | | | | | 71Se01 |
| 4316(10) | $7^+$,$9^+$ | 4 | 0.112 | 72 | | | | | | | | 71Se01 |
| 4363(10) | $5^-$,$7^-$ | 3 | 0.033 | 32 | | | | | | | | 71Se01 |
| 4378.68(21) | $\langle 1–5^-\rangle$ | 1 | 0.440 | 10585 | $\langle 0\rangle$ | 0.065 | 2910 | 1.85 | | | | 71Se01 |
| 4379.44(19) | $\langle 1–5^-\rangle$ | 3 | 0.825 | incl | $+\langle 3\rangle$ | 0.237 | incl | | | | 3(4) fs | 74Th03 |
| 4432.4(8) | | | | | | | | | | | <0.14 ps | |
| 4459.70(14) | $5^-$,$7^-$ | | | | | | | | | | | 71Se01 |
| 4492 | $5^+$ | 2 | 0.200 | 1578 | 2 | 0.026 | 1020 | 0.156 | | | | 71Se01 |
| 4525 | $7^+$,$9^+$ | 4 | 0.050 | 28 | | | | | | | | 71Se01 |
| 4525.54(23) | $\langle 17^+\rangle$ | | | | | | | | | | 0.29(9) ps | |
| 4544(10) | $1^+$ | 0 | 0.006 | 50 | | | | | | | | 71Se01 |
| 4572.8(5) | $1^+$ | 0 | 0.012 | 132 | | | | | | | | 71Se01 |
| 4597.4(3) | $5^+$ | 2 | 0.200 | 1561 | 2 | 0.035 | 1280 | 0.210 | | | 5(8) fs | 71Se01 |
| 4652(10) | $5^-$,$7^-$ | 3 | 0.176 | 190 | | | | | | | | 71Se01 |
| 4680(10) | | | | | | | | | | | | |
| 4691.75(15) | $\langle 5^+\rangle$ | | | | | | | | | | | |
| 4719(10) | | | | | | | | | | | | 71Se01 |
| 4753(10) | $5^-$,$7^-$ | 3 | 0.220 | 218 | | | | | | | | 71Se01 |
| 4771(10) | $3^+$,$5^+$ | 2 | 0.032 | 249 | | | | | | | | 71Se01 |
| 4823.9(5) | | 1 | 0.486 | 5286 | $\langle 0\rangle$ | 0.096 | 3220 | 0.192 | | | <10 fs | 71Se01 |
| | | | | | $+\langle 2\rangle$ | 0.051 | | 0.204 | | | | 74Th03 |
| 4902(10) | | | | | | | | | | | | 71Se01 |
| 4922.9(7) | $5^+$ | 2 | 0.131 | 1082 | 2 | 0.059 | 1950 | 0.300 | | | 7(10) fs | 71Se01 |
| 4970(20) | $\langle 5^-,7^-\rangle$ | | | | | | | | $\langle 3\rangle$ | | | 65Sh06 |
| 4976(10) | $3^+$,$5^+$ | 2 | 0.229 | 1943 | | | | | | | | 71Se01 |
| 5019(10) | $5^-$,$7^-$ | 3 | 0.085 | 95 | | | | | | | | 71Se01 |
| 5064(10) | $\langle 1^+,7^-\rangle$ | 1 | 0.063 | 1823 | $\langle 0\rangle$ | 0.011 | 480 | 0.022 | | | | 74Th03 |
| | | +3 | 0.284 | | $+\langle 3\rangle$ | 0.042 | | 0.312 | | | | 74Th03 |
| 5085(10) | | | | | | | | | | | | 71Se01 |
| 5099 | | | | | | | | | | | | 71Se01 |
| 5115(10) | $1^+$ | 0 | 0.012 | 196 | | | | | | | | 71Se01 |
| 5140.2(2) | $\langle 1,3,5^+\rangle$ | 0 | 0.066 | 1146 | 1 | 0.033 | 660 | 0.066 | | | | 74Th03 |
| 5178.4(3) | $1^+$ | 0 | 0.008 | 207 | | | | | | | | 71Se01 |

(continued) **$^{57}_{26}$Fe**

| $E^*$ [keV] | $2J^\pi$ | $L$ | $S'$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $L$ | $S_N$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S'$ (d,p) | $L$ | $C^2S$ (p,d) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5195 | | | | | | | | | | | | 71Se01 |
| 5221.6(3) | $\langle 1^- – 5^+ \rangle$ | | | | | | | | | | | 71Se01 |
| 5238.7(4) | $\langle 1 – 5^+ \rangle$ | | | | | | | | | | | 71Se01 |
| 5250 | $1^+$ | 0 | 0.006 | 97 | | | | | | | | 71Se01 |
| 5271(10) | $1^+$ | 0 | 0.006 | 48 | | | | | | | | 71Se01 |
| 5289 | $5^+$ | 2 | 0.121 | 1122 | 2 | 0.018 | 880 | 0.108 | 2 | | | 71Se01 |
| 5334 | $7^+,9^+$ | 4 | 0.113 | 62 | | | | | | | | 71Se01 |
| 5362.1(9) | $5^+$ | 2 | 0.458 | 4724 | 2 | 0.064 | 3250 | 0.256 | | | 6(+15-6) fs | 71Se01 |
| 5404(10) | | | | | | | | | | | | 71Se01 |
| 5422(10) | $3^+,5^+$ | 2 | 0.034 | 644 | | | | | | | | 71Se01 |
| 5445(10) | $7^+,9^+$ | 4 | 0.773 | incl | | | | | | | | 71Se01 |
| 5472(10) | $3^+,5^+$ | 2 | 0.045 | 426 | | | | | | | | 71Se01 |
| 5500(10) | $1^+$ | 0 | 0.003 | 54 | | | | | | | | 71Se01 |
| 5512(10) | | | | | | | | | | | | 71Se01 |
| 5525(10) | $1^+$ | 0 | 0.005 | 53 | | | | | | | | 71Se01 |
| 5545 | | | | | | | | | | | | 71Se01 |
| 5564(10) | $3^+,5^+$ | 2 | 0.056 | 586 | | | | | | | | 71Se01 |
| 5590(10) | | | | | | | | | | | | 71Se01 |
| 5623(10) | | | | 396 | | | | | | | | 71Se01 |
| 5641(10) | | | | | | | | | | | | 71Se01 |
| 5675(10) | | | | | | | | | | | | 71Se01 |
| 5688(10) | | | | | | | | | | | | 71Se01 |
| 5721(10) | $1^+$ | 0 | 0.004 | 322 | | | | | | | | 71Se01 |
| | $[9^+]$ | 4 | 0.453 | | | | | | | | | 71Se01 |
| 5737(10) | $1^+$ | 0 | 0.010 | 272 | | | | | | | | 71Se01 |
| 5769(10) | | | | | | | | | | | | 71Se01 |
| 5802(10) | $3^+,5^+$ | 2 | 0.017 | 142 | | | | | | | | 71Se01 |
| 5825 | $3^+,5^+$ | 2 | 0.026 | 245 | | | | | | | | 71Se01 |
| 5844 | $1^+$ | 0 | 0.010 | 72 | | | | | | | | 71Se01 |
| 5864 | $3^+,5^+$ | 2 | 0.032 | 283 | | | | | | | | 71Se01 |
| 5900 | | | | | | | | | | | | 71Se01 |
| 5918 | | | | | | | | | | | | 71Se01 |
| 5936 | | | | | | | | | | | | 71Se01 |
| 5956 | $3^+,5^+$ | 2 | 0.014 | 130 | | | | | | | | 71Se01 |
| 5983 | $3^+ – \langle 9^+ \rangle$ | 2 | 0.016 | 360 | | | | | | | | 71Se01 |
| | | +4 | 0.333 | | | | | | | | | 71Se01 |
| 6025 | $3^+,5^+$ | 2 | 0.067 | 642 | | | | | | | | 71Se01 |
| 6044 | $3^+,5^+$ | 2 | 0.087 | 771 | | | | | | | | 71Se01 |
| 6083 | | | | | | | | | | | | 71Se01 |
| 6103 | $7^+,9^+$ | 4 | 0.267 | 264 | | | | | | | | 71Se01 |
| 6130 | $1^+$ | 0 | 0.034 | 547 | | | | | | | | 71Se01 |
| 6148 | | | | | | | | | | | | 71Se01 |
| 6171 | $3^+,5^+$ | 2 | 0.060 | 528 | | | | | | | | 71Se01 |
| 6187.1(3) | $\langle 21^+ \rangle$ | | | | | | | | | | 0.11(4) ps | |
| 6194 | $7^+,9^+$ | 4 | 0.267 | 234 | | | | | | | | 71Se01 |

(continued) **$^{57}_{26}$Fe**

| $E^*$ [keV] | $2J^\pi$ | $L$ | $S'$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $L$ | $S_N$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S'$ (d,p) | $L$ | $C^2S$ (p,d) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6212 | $1^+$ | 0 | 0.004 | 59 | | | | | | | | 71Se01 |
| 6230 | $3^+,5^+$ | 2 | 0.032 | 361 | | | | | | | | 71Se01 |
| 6252 | $7^+,9^+$ | 4 | 0.067 | 78 | | | | | | | | 71Se01 |
| 6270 | $7^+,9^+$ | 4 | 0.300 | 263 | | | | | | | | 71Se01 |
| 6305 | | | | | | | | | | | | 71Se01 |
| 6323 | | | | | | | | | | | | 71Se01 |
| 6340 | | | | | | | | | | | | 71Se01 |
| 6370 | $3^+,5^+$ | 2 | 0.020 | 225 | | | | | | | | 71Se01 |
| 6408 | $3^+,5^+$ | 2 | 0.012 | 113 | | | | | | | | 71Se01 |
| 6427 | $3^+,5^+$ | 2 | 0.200 | 2047 | | | | | | | | 71Se01 |
| 6496 | | | | | | | | | | | | 71Se01 |
| 6512 | $3^+,5^+$ | 2 | 0.047 | 529 | | | | | | | | 71Se01 |
| 6542 | $1^+$ | 0 | 0.010 | 234 | | | | | | | | 71Se01 |
| 6571 | $3^+,5^+$ | 2 | 0.047 | 460 | | | | | | | | 71Se01 |
| 6589 | $3^+,5^+$ | 2 | 0.067 | 892 | | | | | | | | 71Se01 |
| 6640 | $3^+,5^+$ | 2 | 0.067 | 891 | | | | | | | | 71Se01 |
| 6672 | $3^+,5^+$ | 2 | 0.093 | 1129 | | | | | | | | 71Se01 |
| 6703 | $3^+,5^+$ | 2 | 0.093 | 1030 | | | | | | | | 71Se01 |
| 6725 | | | | | | | | | | | | 71Se01 |
| 7646.7(7) | $1^-$ | | | | | | | | | | | |
| 8323.0(5) | $\langle 25^+\rangle$ | | | | | | | | | | <0.14 ps | |
| 10450(50) | $\langle 7^-\rangle$ | | | | | | | | $\langle 3\rangle$ | 0.36 | | 65Sh06 |
| | | | 71Se01 | 71Se01 | | | 74Th03 | | | 65Sh06 | | Ref. |
| | | | | | | 74Th03 | | 74Th03 | | | | Ref. |

Additional data on this isotope can be found in [64Bo08].
*Abundance:* 2.119(10) %.
* Doublet.
** Results from [73De23] instead of [71Se01]; all cross sections $\sigma$ (d,p) are from [71Se01] and [74Th03].
Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [98Bh11]. Part 2 **$^{57}_{26}$Fe**

| $E^*$ | $2J^\pi$ | | Branching ratios in percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 0.0 | 14.4 | 136 | 367 | 706 | 1007 | 1140 | 1198 | 1265 | 1357 |
| [keV] | | $2J_f^\pi$: | $1^-$ | $3^-$ | $5^-$ | $3^-$ | $5^-$ | $7^-$ | | $9^-$ | $1^-$ | $7^-$ |
| 14.4129(6) | $3^-$ | | 100 | | | | | | | | | |
| 136.4743(5) | $5^-$ | | 11(1) | 89(9) | | | | | | | | |
| 366.759(7) | $3^-$ | | 14(2) | 79(9) | 7.2(9) | | | | | | | |
| 706.42(2) | $5^-$ | | 4.8(20) | 84(9) | 9.3(11) | 1.4(3) | | | | | | |
| 1007.13(4) | $7^-$ | | | 33(1) | 64(1) | 3(2) | | | | | | |
| 1197.81(13) | $9^-$ | | | | 100 | | | | | | | |

(continued) **$^{57}_{26}$Fe**

| $E^*$ | $2J^\pi$ | | Branching ratios in percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E^*_f$: | 0.0 | 14.4 | 136 | 367 | 706 | 1007 | 1140 | 1198 | 1265 | 1357 |
| [keV] | | $2J^\pi_f$: | $1^-$ | $3^-$ | $5^-$ | $3^-$ | $5^-$ | $7^-$ | | $9^-$ | $1^-$ | $7^-$ |
| 1265.52(13) | $1^-$ | | 2.5(7) | 4.5(7) | | 93 | | | | | | |
| 1356.83(18) | $7^-$ | | | 22(3) | | 23(4) | 55 | | | | | |
| 1627.26(2) | $3^-$ | | 2.4(3) | 61(7) | | 28(3) | 8.6(10) | | | | | |
| 1725.38(3) | $3^-$ | | 68(8) | 2.7(6) | | 10(1) | 19(2) | | | | 0.33(12) | |
| 1976.6(2) | $\langle 1^-–5^-\rangle$ | | 16 | | 67 | | | | | | | |
| 1989.7(2) | $9^-$ | | | | | | 41 | 32 | | 27 | | |
| 2113.1(2) | $\langle 1–5^-\rangle$ | | 79(13) | | | | | | | | 21(6) | |
| 2118.6(5) | $5^-$ | | | 35(7) | | | 51(8) | 15 | | | | |
| 2206.9(1) | $5^-$ | | 36(9) | 43(8) | | x | | 18 | | | 3(2) | |
| 2217.7(2) | $\langle 5^+\rangle$ | | | 45(14) | 35(8) | 21(4) | | | | | | |
| 2220.2 | $\langle 7^-\rangle$ | | | 49 | 46 | 5 | | | | | | |
| 2355.96(5) | $\langle 11\rangle^-$ | | | | | | | 71(7) | | 29(3) | | |
| 2455.5(2) | $9^+$ | | | | | | | 100 | | | | |
| 2505.3(1) | $5^+$ | | | 10(3) | 26(1) | 56(7) | 6(1) | | | | | |
| 2564.2(2) | $3^-$ | | 36(10) | | | | | | | | | |
| 2574.5(4) | $\langle 1–5^-\rangle$ | | 72(9) | | | 28(11) | | | | | | |
| 2593.6(6) | $\langle 3^-,5^-\rangle$ | | 9 | | | | 50 | 41 | | | | |
| 2599.4(3) | $\langle 1–5^+\rangle$ | | 30(10) | | 70(12) | | | | | | | |
| 2697.2(2) | $1^-$ | | 35(2) | 53(3) | | 8(1) | 4(1) | | | | | |
| 2758.3(1) | | | | | | 79(11) | | | | | 21(4) | |
| 2821.1(2) | $\langle 1–5^+\rangle$ | | | | | | | 31(9) | | | | |
| 2835.9(1) | 3,5 | | 15(2) | 6(1) | | 36(7) | 40(4) | 2(1) | | | | |
| 2878.7(4) | $\langle 13\rangle^-$ | | | | | | | | | 100 | | |
| 2904.28(24) | | | | | | 32(9) | 68(18) | | | | | |
| 2921.20(10) | $1^-,3^-$ | | 46(4) | 21(2) | | 14(1) | x | | | | 19(1) | |
| 2970.89(22) | $\langle 1–5^+\rangle$ | | | | | 100 | | | | | | |
| 2987.95(15) | $\langle 1–5^+\rangle$ | | | | | 8(3) | | | | | 52(7) | |
| 3059.1(3) | $1^+$ | | | | 67(7) | 33(11) | | | | | | |
| 3098.95(15) | | | | | | | | 100 | | | | |
| 3122.76(21) | | | | | | 100 | | | | | | |
| 3182.77(20) | $1^-,3^-$ | | | 31(26) | | 18(4) | | | | | | 18(4) |
| 3239.89(12) | $1^+$ | | 19(2) | 16(3) | 36(5) | 20(2) | | | | | | |
| 3301.77(10) | $\langle 5^-,7^-\rangle$ | | | | | 19(8) | | | | 52(12) | | |
| 3322.48(11) | $1^-,3^-$ | | | | | | | | | | | 44(6) |
| 3336.59(25) | | | | | | 100 | | | | | | |
| 3371.11(16) | $3^-$ | | | 77(9) | | | | | | | | |
| 3427.68(8) | $3^-$ | | | 47(5) | 9(2) | 4.4(8) | 40(4) | | | | | |
| 3791.6(1)* | $3^+$ | | 12 | 6(2) | | | | | | | 21(5) | |
| 3936.1(7) | $5^-,7^-$ | | | 100 | | | | | | | | |
| 3981.18(24) | $3^-$ | | 29(6) | | | x | | | | | | |
| 4138.57(18) | $5^+$ | | | | 8(2) | 10(2) | | | | | | 37(7) |
| 4209.59(12) | $\langle 3\rangle^-$ | | 5(2) | 10(2) | 16(2) | 22(3) | | | | | 6(2) | |
| 4378.68(21) | $\langle 1–5^-\rangle$ | | 53(9) | | | | | | | | | |
| 4379.44(19) | $\langle 1–5^-\rangle$ | | | | | 75(7) | | | | | | |
| 4691.75(15) | $\langle 5^+\rangle$ | | | | 14(4) | | | | | | | |

(continued) **$^{57}_{26}$Fe**

| $E^*$ | $2J^\pi$ | | Branching ratios in percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 0.0 | 14.4 | 136 | 367 | 706 | 1007 | 1140 | 1198 | 1265 | 1357 |
| [keV] | | $2J_f^\pi$: | $1^-$ | $3^-$ | $5^-$ | $3^-$ | $5^-$ | $7^-$ | | $9^-$ | $1^-$ | $7^-$ |
| 4922.9(7) | $5^+$ | | | | | | | | | | | 41(5) |
| 5178.4(3) | $1^+$ | | | | 30(9) | | | | | | | |
| 5221.6(3) | $\langle 1^- – 5^+ \rangle$ | | | | | 32(13) | | | | | | |
| 7646.7(7) | $1^-$ | | 19(2) | 47(2) | 2.5(4) | 0.9(3) | | | <0.5 | | 17(2) | |

Energy levels and branching ratios [98Bh11]. Part 3 **$^{57}_{26}$Fe**

| $E^*$ | $2J^\pi$ | | Branching ratios in percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 1627 | 1725.4 | 1976.6 | 2113.1 | 2206.9 | 2217.7 | 2330.4 | 2356.0 | 2455.5 | 2505.3 |
| [keV] | | $2J_f^\pi$: | $3^-$ | $3^-$ | | | $5^-$ | $\langle 5^+ \rangle$ | | $\langle 11 \rangle^-$ | $9^+$ | $5^+$ |
| 1976.6(2) | $\langle 1^- – 5^- \rangle$ | | | 17 | | | | | | | | |
| 2330.4(2) | $\langle 1 – 5^+ \rangle$ | | 100 | | | | | | | | | |
| 2505.3(1) | $5^+$ | | | 3 | | | | | | | | |
| 2564.2(2) | $3^-$ | | | 64(11) | | | | | | | | |
| 2821.1(2) | $\langle 1 – 5^+ \rangle$ | | | | | | | 69(11) | | | | |
| 2835.9(1) | 3,5 | | | | | 0.6(6) | | | | | | |
| 2987.95(15) | $\langle 1 – 5^+ \rangle$ | | | | | | | | 40(6) | | | |
| 3182.77(20) | $1^-$,$3^-$ | | | 8(2) | | | 10(6) | | | | | |
| 3205.6(5) | $5^-$,$7^-$ | | | | | | | 100 | | | | |
| 3239.89(12) | $1^+$ | | | | 5.3(7) | | | 2.7(6) | | | | 2.1(6) |
| 3269.26(13) | $\langle 13 \rangle^+$ | | | | | | | | | 67(2) | 33(2) | |
| 3301.77(10) | $\langle 5^-$,$7^- \rangle$ | | 30(8) | | | | | | | | | |
| 3322.48(11) | $1^-$,$3^-$ | | | | 9(2) | | 14(2) | | | | | |
| 3340.33(18) | | | | | | | | | | | 100 | |
| 3371.11(16) | $3^-$ | | | 16(3) | | | | | 7(2) | | | |
| 3535.92(18) | | | | 100 | | | | | | | | |
| 3561.34(12) | | | | | | 28(7) | | | | | | |
| 3608.51(21) | | | 100 | | | | | | | | | |
| 3791.6(1)* | $3^+$ | | 15(2) | 36(4) | | | 5.1(9) | | 5.8(9) | | | |
| 3862.42(19) | | | | | | | 100 | | | | | |
| 4042.60(24) | $5^-$,$7^-$ | | 100 | | | | | | | | | |
| 4136.62(10) | $\langle 1 – 5^+ \rangle$ | | | | | | 8(3) | | | | | |
| 4138.57(18) | $5^+$ | | | | | | | | | | | 45(3) |
| 4144.3(5) | $\langle 1 – 5^+ \rangle$ | | 100 | | | | | | | | | |
| 4209.59(12) | $\langle 3 \rangle^-$ | | 7(2) | | | 4(2) | | | | | | 8(2) |
| 4378.68(21) | $\langle 1 – 5^- \rangle$ | | | 16(7) | | | | | | | | |
| 4459.70(14) | $5^-$,$7^-$ | | 58(8) | 16(3) | | 6(3) | | | | | | |
| 4597.4(3) | $5^+$ | | | x | | | | | | | | |
| 4691.75(15) | $\langle 5^+ \rangle$ | | | | | | 13(4) | | | | | 6(2) |
| 4922.9(7) | $5^+$ | | | | | | | | | | | 59(8) |
| 5140.2(2) | $\langle 1,3,5^+ \rangle$ | | | | | 39(5) | | | | | | |
| 5221.6(3) | $\langle 1^- – 5^+ \rangle$ | | | | | | 39(7) | | | | | |

(continued) **$^{57}_{26}$Fe**

| $E^*$ | $2J^\pi$ | Branching ratios in percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | $E_f^*$: | 1627 | 1725.4 | 1976.6 | 2113.1 | 2206.9 | 2217.7 | 2330.4 | 2356.0 | 2455.5 | 2505.3 |
| [keV] | $2J_f^\pi$: | $3^-$ | $3^-$ | | | $5^-$ | $\langle 5^+ \rangle$ | | $\langle 11 \rangle^-$ | $9^+$ | $5^+$ |
| 5362.1(9) | $5^+$ | | | | | | | | | | 100 |
| 7646.7(7) | $1^-$ | 0.5(2) | 2.6(6) | | | | | | | | |

Energy levels and branching ratios [98Bh11]. Part 4 **$^{57}_{26}$Fe**

| $E^*$ | $2J^\pi$ | Branching ratios in percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | $E_f^*$: | 2564.2 | 2599.4 | 2697.2 | 2758.3 | 2821.1 | 2835.9 | 2855.0 | 2878.7 | 2904.3 | 2921.2 |
| [keV] | $2J_f^\pi$: | $3^-$ | | $1^-$ | | | 3,5 | | $\langle 13 \rangle^-$ | | $1^-$,$3^-$ |
| 3134.8(4) | $\langle 15 \rangle^-$ | | | | | | | | 100 | | |
| 3322.48(11) | $1^-$,$3^-$ | | | | 33(4) | | | | | | |
| 3561.34(12) | | | | | 72(8) | | | | | | |
| 3981.18(24) | $3^-$ | | 37(5) | 29(14) | | 6(3) | | | | | |
| 4136.62(10) | $\langle 1$–$5^+ \rangle$ | | | | | | 12(3) | 12(5) | | | 13(3) |
| 4209.59(12) | $\langle 3 \rangle^-$ | | | | | | | | | 5(2) | |
| 4379.44(19) | $\langle 1$–$5^- \rangle$ | | | 9(3) | | | | | | | 16(2) |
| 4459.70(14) | $5^-$,$7^-$ | | | | 12(2) | | | | | | |
| 4572.8(5) | $1^+$ | | 100 | | | | | | | | |
| 4597.4(3) | $5^+$ | 100 | | | | | | | | | |
| 4691.75(15) | $\langle 5^+ \rangle$ | | | | | | 10(2) | 10(2) | | | |
| 5140.2(2) | $\langle 1,3,5^+ \rangle$ | 39(8) | | | | | | | | | |
| 5178.4(3) | $1^+$ | | | 10(4) | | | | | | | |
| 5221.6(3) | $\langle 1^-$–$5^+ \rangle$ | | | | | | 29(7) | | | | |
| 7646.7(7) | $1^-$ | | | 2.4(7) | | | 0.7(5) | | | | |

Energy levels and branching ratios [98Bh11]. Part 5 **$^{57}_{26}$Fe**

| $E^*$ | $2J^\pi$ | Branching ratios in percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | $E_f^*$: | 2970.9 | 3059.1 | 3098.9 | 3110 | 3122.8 | 3134.8 | 3182.8 | 3205.6 | 3239.9 | 3269.3 |
| [keV] | $2J_f^\pi$: | | $1^+$ | | | | $\langle 15 \rangle^-$ | $1^-$,$3^-$ | $5^-$,$7^-$ | $1^+$ | $\langle 13 \rangle^+$ |
| 3182.77(20) | $1^-$,$3^-$ | 16(3) | | | | | | | | | |
| 3513.8(4) | $\langle 17 \rangle$ | | | | | | 100 | | | | |
| 4136.62(10) | $\langle 1$–$5^+ \rangle$ | | 5(1) | | | | | | | | |
| 4209.59(12) | $\langle 3 \rangle^-$ | | | 4(1) | | | | 4(1) | | | |
| 4378.68(21) | $\langle 1$–$5^- \rangle$ | | | | | 7(4) | | | | | |
| 4432.4(8) | | | | | | | 100 | | | | |
| 4459.70(14) | $5^-$,$7^-$ | | | | 5.4(23) | | | | | | |
| 4525.54(23) | $\langle 17^+ \rangle$ | | | | | | | | | | 100 |
| 4691.75(15) | $\langle 5^+ \rangle$ | | | | | | | | 5(2) | | |
| 4823.9(5) | | | | | | | | | | 100 | |

(continued) **$^{57}_{26}$Fe**

| $E^*$ | $2J^\pi$ | Branching ratios in percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | $E_f^*$: | 2970.9 | 3059.1 | 3098.9 | 3110 | 3122.8 | 3134.8 | 3182.8 | 3205.6 | 3239.9 | 3269.3 |
| [keV] | $2J_f^\pi$: | | $1^+$ | | | | $\langle 15\rangle^-$ | $1^-$,$3^-$ | $5^-$,$7^-$ | $1^+$ | $\langle 13\rangle^+$ |
| 5140.2(2) | $\langle 1,3,5^+\rangle$ | | | | | | | | | 22(8) | |
| 7646.7(7) | $1^-$ | | | | | | | 2.6(5) | | 0.6(4) | |

Energy levels and branching ratios [98Bh11]. Part 6 **$^{57}_{26}$Fe**

| $E^*$ | $2J^\pi$ | Branching ratios in percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | $E_f^*$: | 3301.8 | 3322.5 | 3336.6 | 3340.3 | 3371.1 | 3427.7 | 3561.3 | 3608.5 | 3791.6 | 3926.0 |
| [keV] | $2J_f^\pi$: | $\langle 5^-,7^-\rangle$ | $1^-$,$3^-$ | | | $3^-$ | $3^-$ | | | $3^+$ | |
| 4136.62(10) | $\langle 1–5^+\rangle$ | 27(3) | | | | | | 24(13) | | | |
| 4209.59(12) | $\langle 3\rangle^-$ | | | | | | | | 10(2) | | |
| 4378.68(21) | $\langle 1–5^-\rangle$ | | | | | 10(4) | | | | | |
| 4459.70(14) | $5^-$,$7^-$ | | | | 2.2(11) | | | | | | |
| 4691.75(15) | $\langle 5^+\rangle$ | | 21(4) | 21(5) | | | | | | | |
| 7646.7(7) | $1^-$ | | | | | 0.8(4) | 0.6(4) | | | 0.9(5) | 0.9(6) |

Energy levels and branching ratios [98Bh11]. Part 7 **$^{57}_{26}$Fe**

| $E^*$ | $2J^\pi$ | Branching ratios in percentage | | | | |
|---|---|---|---|---|---|---|
| | $E_f^*$: | 3981.2 | 4042.6 | 4379.4 | 4525.5 | 6187.1 |
| [keV] | $2J_f^\pi$: | $3^-$ | $5^-$,$7^-$ | | $\langle 17^+\rangle$ | $\langle 21^+\rangle$ |
| 4378.68(21) | $\langle 1–5^-\rangle$ | | 13(4) | | | |
| 5178.4(3) | $1^+$ | 60(7) | | | | |
| 6187.1(3) | $\langle 21^+\rangle$ | | | | 100 | |
| 7646.7(7) | $1^-$ | | | 0.9(5) | | |
| 8323.0(5) | $\langle 25^+\rangle$ | | | | | 100 |

Energy levels and branching ratios [97Bh02]. **$^{58}_{26}$Fe**

| $E^*$ | $J^\pi$ | $L$ | $S_N$ | $\sigma$ (d,p) | $S_{dp}$ | $2j_n$ | $\sigma$ (d,p) | $S''$ | $L$ | $\beta R$ | $S_N$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| [keV] | | | (d,p) | $\mu$b/sr | | (d,p) | $\mu$b/sr | (d,p) | | $(\alpha,\alpha')$ | (d,$\tau$) | |
| 0.0 | $0^+$ | 1 | 0.03 | 140 | 0.14 | 1– | 200 | 0.04 | | | 0.25 | 72Ra17 |
| 810.784(8) | $2^+$ | 1+3 | 0.14+0.3 | 660 +140 | 0.11 +0.33 | 3– 5– | 590+120 | 0.1+0.3 | 2 | 0.91 | 0.84 | 72Ra17 |
| 1674.752(8) | $2^+$ | 1+3 | 0.4+0.02 | 2600 | 0.37 | 3– | 1590 | 0.44 | 2 | 0.25 | 0.02+0.1 | 70Br07 |
| 2076.54(4) | $4^+$ | | | 65 | 0.05 | 7– | | | 4 | | 0.43 | 82Ni01 |

(continued) **$^{58}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ | $S_N$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S_{dp}$ | $2j_n$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S''$ (d,p) | $L$ | $\beta R$ $(\alpha,\alpha')$ | $S_N$ (d,$\tau$) | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2133.914(21) | $3^+$ | 3 | 0.51 | 180 | 0.27 | 5– | 200 | 0.39 | | | | 72Ra17 |
| 2257.96(21) | $0^+$ | 1 | 0.015 | | | | | | | | | 72Ra17 |
| 2600.42(3) | $4^+$ | ⟨3⟩ | 0.02 | | | | 50 | | 4 | 0.25 | 0.23 | 82Ni01 |
| 2782.14(19) | $1^+$ | 1 | 0.62 | 3300 | 0.64 | 3– | 2900 | 0.45 | | | | 72Ra17 |
| 2864.72(12) | | | | | | | | | | | | |
| 2876.46(13) | $2^+$ | 1+3 | 0.03+0.4 | 260 | 0.44 | 5– | 260 | | | | | 72Ra17 |
| 2962 | $\langle 5^- \rangle$ | | | | | | | | | | | |
| 3083.71(19) | $2^+$ | 1 | 0.33 | 3400 | 0.37 | 3– | 2520 | 0.38 | | | 0.08 | 82Ni01 |
| 3135(5) | $4^+$ | | | | | | | | | | | |
| 3233.28(6) | $2^+$ | 1+3 | 0.02+0.1 | | | | 140 | | | | | 72Ra17 |
| 3244.11(23) | $0^+$ | | | | | | incl | | | | | |
| 3383 | $2^+$ | | | | | | | | | | | |
| 3449.8(3) | $\langle 4^+ \rangle$ | | | | | | | | | | | |
| 3537.99(15) | $1^+$ | 1 | 0.20 | 1200 | 0.19 | 3– | 1000 | 0.15 | | | | 72Ra17 |
| 3596.90(13) | $6^+$ | | | | | | | | | | | |
| 3629.60(23) | $2^+$ | 1 | 0.25 | | | | 860 | 0.12 | | | 0.94 | 82Ni01 |
| 3703 | | | | | | | | | | | | |
| 3754.3(4) | $\langle 4 \rangle^+$ | | | | | | | | | | 0.05+0.8 | 82Ni01 |
| 3789.51(18) | $\langle 5^- \rangle$ | | | | | | | | 3 | 0.37 | | 70Br07 |
| 3854(10) | $2^+$ | 1+3 | 0.01+0.1 | | | | | | | | | 72Ra17 |
| 3860.8(10) | $3^-$ | | | | | | | | | | | |
| 3880.1(3) | $1^+$ | 1 | 0.05 | | | | | | | | | 72Ra17 |
| 3886.4(1) | $6^+$ | | | | | | | | | | 1.56 | 82Ni01 |
| 3901.64(7) | $\langle 3 \rangle^+$ | 3 | 0.63 | | | | 600 | | | | | 72Ra17 |
| 4006(4) | | | | | | | | | | | | |
| 4010.8 | $2^+$ | | | | | | | | | | | |
| 4015.0(3) | $1^+$ | 1+3 | 0.09+0.2 | | | | 960 | | | | | 72Ra17 |
| 4088.5(2) | $4^+$ | | | 690 | 0.06 | 3– | | | | | 0.04+0.1 | 82Ni01 |
| 4139.4(3) | $1^+$ | 1 | 0.06 | | | | | | | | | 72Ra17 |
| 4158(10) | $0^+$ | 1 | 0.19 | 3700 | 0.94 | 1– | 3240 | 0.44 | | | | 72Ra17 |
| 4214.7(1) | $5^-$ | ⟨3⟩ | 0.09 | | | | | | | | | 72Ra17 |
| 4237(10) | $\langle 2^+ \rangle$ | ⟨1+3⟩ | 0.09+0.4 | | | | | | | | | 72Ra17 |
| 4297.8(5) | $2^+$ | | | | | | | | | | | |
| 4312.9(1) | $2^+$ | 1+3 | 0.09+0.4 | 1600 | 0.12 | 3– | | | | | 0.04 | 82Ni01 |
| 4322.6(3) | $1^+$ | | | | | | | | | | | |
| 4340(20) | $\langle 5^-,4^+ \rangle$ | | | | | | | | | | | |
| 4348(10) | $2^+$ | 1+3 | 0.06+0.2 | | | | 1680 | | | | | 72Ra17 |
| 4350(20) | $\langle 0^+ \rangle$ | | | | | | | | | | | |
| 4352.7(6) | $1^+$ | | | | | | | | | | | |
| 4398(10) | | | | | | | | | | | | |
| 4438(10) | $1^-$–$3^-$ | | | 740 | 0.07 | 5+ | | | 3 | 0.39 | | 70Br07 |
| 4440(20) | $3^-,4^-$ | 2 | 0.07 | | | | 1050 | | | incl | 0.38 | 75Ko19 |
| 4444.3(5) | $1^+$ | | incl | | | | incl | | | incl | | 70Br07 |
| 4450(20) | $\langle 0^+ \rangle$ | | | | | | incl | | | | | |
| 4468(10) | $3^-$ | | | | | | | | | | | |

(continued) **$^{58}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ | $S_N$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S_{dp}$ | $2j_n$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S''$ (d,p) | $L$ | $\beta R$ $(\alpha,\alpha')$ | $S_N$ (d,$\tau$) | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4493.1(3) | | | | | | | | | | | | |
| 4514(10) | $\langle 3^+,2^+\rangle$ | $\langle 3\rangle$ | 0.09 | | | | | | | | | 72Ra17 |
| 4530.2(2) | 1,2 | | | | | | | | | | | |
| 4551.0(2) | $1^+$ | 1 | 0.28 | 2500 | 0.20 | 1– | 3920 | | | | | 72Ra17 |
| 4590.0(4) | $\langle 2^+–4^+\rangle$ | | | | | | | | | | | |
| 4610(20) | $3^-,4^-$ | | | | | | | | | | 0.36 | 82Ni01 |
| 4620(10) | $2^+$ | 1+3 | 0.04+0.5 | | | | | | | | | 72Ra17 |
| 4661(10) | | | | | | | | | | | | |
| 4669.4(1) | $7^-$ | | | | | | | | | | | 90Fi07 |
| 4711(10) | $\langle 2\rangle^+$ | 1+3 | 0.01+0.1 | | | | | | | | 0.06+0.1 | 82Ni01 |
| 4720(20) | $1^-$ | | | | | | | | | | | |
| 4809(10) | $\langle 5^-\rangle$ | | | | | | | | | | | |
| 4833.9(3) | $1^+,2^+$ | | | | | | 680 | | | | 0.05 | 82Ni01 |
| 4890(20) | $2^+$ | | | | | | | | | | | |
| 4937(10) | $2^+$ | | | | | | 910 | 0.24 | | | 0.13 | 82Ni01 |
| 4992(10) | $2^+$ | 1 | 0.24 | | | | 2590 | 0.33 | | | 0.03+0.1 | 82Ni01 |
| 5000.2(2) | $1^+$ | | | 1800 | 0.13 | 1– | 450 | 0.06 | | | | 63Fu04 |
| 5020(20) | $5^-$ | | | | | | | | | | | |
| 5060(20) | $2^+$ | | | | | | | | | | | |
| 5138(10) | $0^+$ | | | | | | | | | | | |
| 5164(10) | | | | | | | | | | | | |
| 5213(10) | $2^+$ | | | | | | | | | | 0.03+0.5 | 82Ni01 |
| 5220.9(5) | 1,2 | | | | | | | | | | | |
| 5236(10) | | | | | | | | | | | | |
| 5254(10) | $3^-$ | | | | | | | | | | | |
| 5294.9(5) | $\langle 1^+–3^+\rangle$ | | | | | | | | | | | |
| 5315(10) | $3^-,4^-$ | | | | | | 680 | | | | 0.13+0.3 | 82Ni01 |
| 5343.3(2) | $8^+$ | | | | | | | | | | | |
| 5370(10) | $\langle 4^+,5^-\rangle$ | | | | | | | | | | | |
| 5400(50) | $X^-$ | | | | | | | | | | 0.88 | 82Ni01 |
| 5406(10) | $0^+$ | | | | | | | | | | | |
| 5415.0(3) | $\langle 1^+–3^+\rangle$ | | | | | | 1610 | | | | | 63Fu04 |
| 5462(10) | $\langle 2^+\rangle$ | | | | | | incl | | | | | |
| 5502.9(10) | $\langle 8^+\rangle$ | | | | | | | | | | | |
| 5506(10) | | | | | | | | | | | | |
| 5523(2) | $0^+$ | | | | | | | | | | | |
| 5620(10) | $0^+$ | | | | | | | | | | 0.01+0.2 | 82Ni01 |
| 5655(10) | $2^+$ | | | | | | | | | | | |
| 5716(10) | $3^-,4^-$ | | | | | | | | | | 0.12+0.2 | 82Ni01 |
| 5734(10) | $2^+$ | | | | | | | | | | | |
| 5763(10) | | | | | | | | | | | | |
| 5788(10) | $\langle 2^+,3^-\rangle$ | | | | | | | | | | | |
| 5817(10) | $\langle 2^-,3^-\rangle$ | $\langle 2\rangle$ | 0.04 | | | | | | | | | 72Ra17 |
| 5830(20) | $0^+$ | | | | | | | | | | | |
| 5832.0(2) | $9^-$ | | | | | | | | | | | |

(continued) **$^{58}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ | $S_N$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S_{dp}$ | $2j_n$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S''$ (d,p) | $L$ | $\beta R$ $(\alpha,\alpha')$ | $S_N$ (d,$\tau$) | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5857(10) | $\langle 2^-,3^-\rangle$ | $\langle 2\rangle$ | 0.08 | | | | | | | | | 72Ra17 |
| 5880(20) | $\langle 2^+,3^-\rangle$ | | | | | | | | | | | |
| 5887(10) | $\langle 0^-,1^-\rangle$ | $\langle 2\rangle$ | 0.02 | | | | | | | | | 72Ra17 |
| 5914(10) | | | | | | | | | | | | |
| 5952(10) | $\langle 2^+\rangle$ | | | | | | | | | | | |
| 5989(10) | | | | | | | | | | | | |
| 6030(10) | | | | | | | | | | | | |
| 6054(10) | | | | | | | | | | | | |
| 6100(50) | $3^-,4^-$ | | | | | | | | | | 0.44 | 82Ni01 |
| 6146(10) | $2^+$ | | | | | | | | | | | |
| 6168(10) | $\langle 0^+\rangle$ | | | | | | | | | | | |
| 6202(10) | $3^-,4^-$ | | | | | | | | | | 0.20 | 82Ni01 |
| 6238(10) | $\langle 1^-,2^+\rangle$ | | | | | | | | | | | |
| 6279(10) | $\langle 1^-,2^+\rangle$ | | | | | | | | | | | |
| 6282.4(4) | $\langle 9\rangle$ | | | | | | | | | | | |
| 6295(10) | $\langle 5^-\rangle$ | | | | | | | | | | | 90Fi07 |
| 6328(10) | | | | | | | | | | | | |
| 6348(10) | | | | | | | | | | | | |
| 6370(10) | | | | | | | | | | | | |
| 6400(10) | $\langle 6^+,7^-\rangle$ | | | | | | | | | | | |
| 6436(10) | $1^-$ | | | | | | | | | | | |
| 6450(10) | $0^+$ | | | | | | | | | | | |
| 6476(10) | | | | | | | | | | | | |
| 6532(10) | | | | | | | | | | | | |
| 6558(10) | | | | | | | | | | | | |
| 6580(20) | $\langle 6^+\rangle$ | | | | | | | | | | | |
| 6593(10) | | | | | | | | | | | | |
| 6615(10) | | | | | | | | | | | | |
| 6636(10) | | | | | | | | | | | | |
| 6650(20) | $0^+$ | | | | | | | | | | | |
| 6679(10) | $\langle 3^-,2^-\rangle$ | $\langle 2\rangle$ | 0.17 | | | | | | | | | 72Ra17 |
| 6741(10) | | | | | | | | | | | | |
| 6760(20) | $0^+$ | | | | | | | | | | | |
| 6771(10) | | | | | | | | | | | | |
| 6789(10) | | | | | | | | | | | | |
| 6842(10) | | | | | | | | | | | | |
| 6870(20) | $\langle 5^-\rangle$ | | | | | | | | | | | |
| 6909(10) | $1^-$ | | | | | | | | | | | |
| 6953(10) | $2^+$ | | | | | | | | | | | |
| 7023(10) | | | | | | | | | | | | |
| 7028(10) | | | | | | | | | | | | |
| 7048(10) | $\langle 1^-,2^+\rangle$ | | | | | | | | | | | |
| 7060(10) | | | | | | | | | | | | |
| 7094(10) | | | | | | | | | | | | |
| 7124(10) | $0^+$ | | | | | | | | | | | |

(continued) **$^{58}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ | $S_N$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S_{dp}$ | $2j_n$ (d,p) | $\sigma$ (d,p) $\mu$b/sr | $S''$ (d,p) | $L$ | $\beta R$ $(\alpha,\alpha')$ | $S_N$ (d,$\tau$) | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7166(10) | $1^-$ | | | | | | | | | | | |
| 7199(10) | | | | | | | | | | | | |
| 7230(10) | | | | | | | | | | | | |
| 7241.6(6) | $\langle 10\rangle$ | | | | | | | | | | | |
| 7272(10) | | | | | | | | | | | | |
| 7289(10) | | | | | | | | | | | | |
| 7351(10) | | | | | | | | | | | | |
| 7380(50) | $\langle 8^+\rangle$ | | | | | | | | | | | 90Fi07 |
| 7429(10) | $\langle 0^-,1^-\rangle$ | $\langle 0\rangle$ | 0.05 | | | | | | | | | 72Ra17 |
| 7457(10) | | | | | | | | | | | | |
| 7473(10) | | | | | | | | | | | | |
| 7492(10) | | | | | | | | | | | | |
| 7507(10) | | | | | | | | | | | | |
| 7534(10) | | | | | | | | | | | | |
| 7567(10) | | | | | | | | | | | | |
| 7578(10) | | | | | | | | | | | | |
| 7585(10) | | | | | | | | | | | | |
| 7605(10) | | | | | | | | | | | | |
| 7628(10) | | | | | | | | | | | | |
| 7653(10) | | | | | | | | | | | | |
| 7680(10) | | | | | | | | | | | | |
| 7690(10) | | | | | | | | | | | | |
| 7729.8(11) | $11^-$ | | | | | | | | | | | |
| 7734(10) | | | | | | | | | | | | |
| 7775(10) | | | | | | | | | | | | |
| 7797(10) | | | | | | | | | | | | |
| 7824(10) | | | | | | | | | | | | |
| 7846(10) | | | | | | | | | | | | |
| 7883(10) | | | | | | | | | | | | |
| 7901(10) | | | | | | | | | | | | |
| 7918(10) | | | | | | | | | | | | |
| 7946(10) | | | | | | | | | | | | |
| 7974(10) | | | | | | | | | | | | |
| 7997(10) | | | | | | | | | | | | |
| 8018(10) | | | | | | | | | | | | |
| 8045(10) | | | | | | | | | | | | |
| 8065(10) | | | | | | | | | | | | |
| 8084(10) | | | | | | | | | | | | |
| 8100(10) | | | | | | | | | | | | |
| 8121(10) | | | | | | | | | | | | |
| 8137(10) | | | | | | | | | | | | |
| 8157(10) | | | | | | | | | | | | |
| 8182(10) | | | | | | | | | | | | |
| 8310(50) | $\langle 6^+\rangle$ | | | | | | | | | | | 90Fi07 |
| 10044.6(2) | $0^-,1^-$ | | | | | | | | | | | |

(continued) **$^{58}_{26}$Fe**

| $E^*$ | $J^\pi$ | $L$ | $S_N$ | $\sigma$ (d,p) | $S_{dp}$ | $2j_n$ | $\sigma$ (d,p) | $S''$ | $L$ | $\beta R$ | $S_N$ | Ref. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| [keV] | | | (d,p) | $\mu$b/sr | | (d,p) | $\mu$b/sr | (d,p) | | $(\alpha,\alpha')$ | (d,$\tau$) | |
| 10070.5(23) | $13^-$ | | 72Ra17 | 75Ko19 | 75Ko19 | 75Ko19 | 63Fu04 | 63Fu04 | | 70Br07 | 82Ni01 | |

Additional data on this isotope can be found in [90Fi07, 77Bo11, 67Co14, 64Bo08].
*Abundance:* 0.282(4) %.
Data on deuteron stripping reaction (d,p) from three works [72Ra17, 75Ko19, 63Fu04] are given at left.
Parameter N=($d\sigma/d\Omega$ (exp)/$d\sigma/d\Omega$ (DWBA)) has a meaning of $S_N$ in the case of two-neutron transfer reaction ($\alpha$,$^2$He).
Data on the ($^7$Li,d) reaction can be found in [77Fu03].
Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [97Bh02]. Part 2 **$^{58}_{26}$Fe**

| $E^*$ | $J^\pi$ | $L$ | $N$ | $T_{1/2}$ or | Ref. | Branching ratios in percentage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $E_f^*$: | 0.0 | 810.8 | 1675 | 2076 | 2134 | 2258 | 2600 |
| [keV] | | | ($\alpha$,$^2$He) | $\Gamma_{cm}$ | $J_f^\pi$: | $0^+$ | $2^+$ | $2^+$ | $4^+$ | $3^+$ | $0^+$ | $4^+$ |
| 0.0 | $0^+$ | 3 | 1600(700) | Table | 72Ra17 | | | | | | | |
| 810.784(8) | $2^+$ | 3 | | 6.54(19) ps | 72Ra17 | 100 | | | | | | |
| 1674.752(8) | $2^+$ | 1+3 | | 1.6(4) ps | 70Br07 | 43(1) | 57 | | | | | |
| 2076.54(4) | $4^+$ | 3 | | 0.24(4) ps | 82Ni01 | | 100 | | | | | |
| 2133.914(21) | $3^+$ | | | 2.2(7) ps | 72Ra17 | | 74(2) | 26(1) | | | | |
| 2257.96(21) | $0^+$ | | | >2.6 ps | 72Ra17 | | 100 | | | | | |
| 2600.42(3) | $4^+$ | 3 | | 0.37(+12-7) ps | 82Ni01 | | 30(1) | 18(1) | 39(1) | 13.4(5) | | |
| 2782.14(19) | $1^+$ | | | 0.18(+3-2) ps | 72Ra17 | 22(2) | 48(4) | 22(1) | | | 7.8(4) | |
| 2864.72(12) | | | | 3.1(14) ps | | | | | | | | 100 |
| 2876.46(13) | $2^+$ | | | 0.094(14) ps | 72Ra17 | 47(5) | 53(4) | | | | | |
| 2962 | $\langle 5^-\rangle$ | | | | | | | | | | | |
| 3083.71(19) | $2^+$ | 3 | | 0.025(5) ps | 82Ni01 | | 100 | | | | | |
| 3135(5) | $4^+$ | | | | | | | | | | | |
| 3233.28(6) | $2^+$ | | | 0.21(6) ps | 72Ra17 | | 34(1) | 16(1) | 32(1) | | | 17(2) |
| 3244.11(23) | $0^+$ | | | | | | 100 | | | | | |
| 3383 | $2^+$ | | | | | | | | | | | |
| 3449.8(3) | $\langle 4^+\rangle$ | | | 0.36(+13-8) ps | | | | | | 31(5) | | 69(11) |
| 3537.99(15) | $1^+$ | | | 0.006(3) ps | 72Ra17 | 17(3) | 68(7) | 15(2) | | | | |
| 3596.90(13) | $6^+$ | | | 0.34(3) ps | | | | | 100 | | | |
| 3629.60(23) | $2^+$ | 3 | | 0.015(3) ps | 82Ni01 | 8(2) | 92(3) | | | | | |
| 3703 | | | | | | | | | | | | |
| 3754.3(4) | $\langle 4\rangle^+$ | 1+3 | | <0.013 ps | 82Ni01 | | | | 100 | | | |
| 3789.51(18) | $\langle 5^-\rangle$ | | | 0.026(6) ps | 70Br07 | | | | 100 | | | |
| 3854(10) | $2^+$ | | | | 72Ra17 | | | | | | | |
| 3860.8(10) | $3^-$ | | | 0.09(+4-2) ps | | | | 100 | | | | |

(continued) **$^{58}_{26}$Fe**

| $E^*$ | $J^\pi$ | $L$ | $N$ | $T_{1/2}$ or | Ref. | | Branching ratios in percentage | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | $E_f^*$: | 0.0 | 810.8 | 1675 | 2076 | 2134 | 2258 | 2600 |
| [keV] | | | ($\alpha$,$^2$He) | $\Gamma_{cm}$ | | $J_f^\pi$: | $0^+$ | $2^+$ | $2^+$ | $4^+$ | $3^+$ | $0^+$ | $4^+$ |
| 3880.1(3) | $1^+$ | | | <0.003 ps | 72Ra17 | | 41(9) | 47(9) | | | | | |
| 3886.4(1) | $6^+$ | 3 | | 0.5(1) ps | 82Ni01 | | | | | 61 | | | ≈5 |
| 3901.64(7) | $\langle 3\rangle^+$ | | | 0.031(7) ps | 72Ra17 | | | 2.3(4) | 7(2) | | 74(3) | | 16(1) |
| 4006(4) | | | | | | | 100 | | | | | | |
| 4010.8 | $2^+$ | | | | | | | | | | | | |
| 4015.0(3) | $1^+$ | | | 0.008(3) ps | 72Ra17 | | | 100 | | | | | |
| 4088.5(2) | $4^+$ | 1+3 | | 0.06(+8-3) ps | 82Ni01 | | | | | <100 | | | 100 |
| 4139.4(3) | $1^+$ | | | 2.8(21) fs | 72Ra17 | | 100 | | | | | | |
| 4158(10) | $0^+$ | | | | 72Ra17 | | | | | | | | |
| 4214.7(1) | $5^-$ | | | 0.45(+14-10) ps | 72Ra17 | | | | | 16 | | | 84 |
| 4237(10) | $\langle 2^+\rangle$ | | | | 72Ra17 | | | | | | | | |
| 4297.8(5) | $2^+$ | | | 2.8(21) fs | | | 50(10) | 50(10) | | | | | |
| 4312.9(1) | $2^+$ | 1 | | 11(7) fs | 82Ni01 | | | 0.8(8) | 59(2) | 15(1) | 21(2) | | 3(1) |
| 4322.6(3) | $1^+$ | | | | | | 36(7) | | | | | | |
| 4340(20) | $\langle 5^-,4^+\rangle$ | | | | | | | | | | | | |
| 4348(10) | $2^+$ | | | | 72Ra17 | | | | | | | | |
| 4350(20) | $\langle 0^+\rangle$ | | | | | | | | | | | | |
| 4352.7(6) | $1^+$ | | | | | | | | | | | | |
| 4398(10) | | | | | | | | | | | | | |
| 4438(10) | $1^-$–$3^-$ | | | | 70Br07 | | | | | | | | |
| 4440(20) | $3^-,4^-$ | 0 | | | 75Ko19 | | | | | | | | |
| 4444.3(5) | $1^+$ | | | 6(+28-6) fs | 70Br07 | | 44(12) | | | | | | |
| 4450(20) | $\langle 0^+\rangle$ | | | | | | | | | | | | |
| 4468(10) | $3^-$ | | | | | | | | | | | | |
| 4493.1(3) | | | | | | | | 7.7 | 92 | | | | |
| 4514(10) | $\langle 3^+,2^+\rangle$ | | | | 72Ra17 | | | | | | | | |
| 4530.2(2) | 1,2 | | | | | | 18(9) | | 32(4) | | | | |
| 4551.0(2) | $1^+$ | | | 21(7) fs | 72Ra17 | | | 4(1) | 22(2) | | | | |
| 4590.0(4) | $\langle 2^+$–$4^+\rangle$ | | | | | | | 74(9) | | 26(9) | | | |
| 4610(20) | $3^-,4^-$ | 0 | | | 82Ni01 | | | | | | | | |
| 4620(10) | $2^+$ | | | | 72Ra17 | | | | | | | | |
| 4661(10) | | | | | | | | | | | | | |
| 4669.4(1) | $7^-$ | | 225(60) | 0.38(+12-6) ps | 90Fi07 | | | | | | | | |
| 4711(10) | $\langle 2\rangle^+$ | 1+3 | | | 82Ni01 | | | | | | | | |
| 4720(20) | $1^-$ | | | | | | | | | | | | |
| 4809(10) | $\langle 5^-\rangle$ | | | | | | | | | | | | |
| 4833.9(3) | $1^+,2^+$ | 3 | | | 82Ni01 | | | | | | 100 | | |
| 4890(20) | $2^+$ | | | | | | | | | | | | |
| 4937(10) | $2^+$ | 3 | | | 82Ni01 | | | | | | | | |
| 4992(10) | $2^+$ | 1+3 | | | 82Ni01 | | | | | | | | |
| 5000.2(2) | $1^+$ | | | 3.0(10) fs | 63Fu04 | | 19(3) | 4(1) | 77(7) | | | | |
| 5020(20) | $5^-$ | | | | | | | | | | | | |
| 5060(20) | $2^+$ | | | | | | | | | | | | |
| 5138(10) | $0^+$ | | | | | | | | | | | | |
| 5164(10) | | | | | | | | | | | | | |

(continued)

# $^{58}_{26}$Fe

| $E^*$ [keV] | $J^\pi$ | $L$ | $N$ ($\alpha$,$^2$He) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. | Branching ratios in percentage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | $E_f^*$: | 0.0 | 810.8 | 1675 | 2076 | 2134 | 2258 | 2600 |
| | | | | | | $J_f^\pi$: | $0^+$ | $2^+$ | $2^+$ | $4^+$ | $3^+$ | $0^+$ | $4^+$ |
| 5213(10) | $2^+$ | 1+3 | | | 82Ni01 | | | | | | | | |
| 5220.9(5) | 1,2 | | | 0.12(+16-15) ps | | | 90(3) | 4(2) | | | | | |
| 5236(10) | | | | | | | | | | | | | |
| 5254(10) | $3^-$ | | | | | | | | | | | | |
| 5294.9(5) | $\langle 1^+–3^+\rangle$ | | | 3.5(28) fs | | | | 14(6) | | | 40(9) | | |
| 5315(10) | $3^-$,$4^-$ | 0+2 | | | 82Ni01 | | | | | | | | |
| 5343.3(2) | $8^+$ | | | 0.42(+10-8) ps | | | | | | | | | |
| 5370(10) | $\langle 4^+,5^-\rangle$ | | | | | | | | | | | | |
| 5400(50) | $X^-$ | 2 | | | 82Ni01 | | | | | | | | |
| 5406(10) | $0^+$ | | | | | | | | | | | | |
| 5415.0(3) | $\langle 1^+–3^+\rangle$ | | | <0.7 fs | 63Fu04 | | | | 6(2) | | 2(1) | | |
| 5462(10) | $\langle 2^+\rangle$ | | | | | | | | | | | | |
| 5502.9(10) | $\langle 8^+\rangle$ | | | <0.14 ps | | | | | | | | | |
| 5506(10) | | | | | | | | | | | | | |
| 5523(2) | $0^+$ | | | | | | | 100 | | | | | |
| 5620(10) | $0^+$ | 1+3 | | | 82Ni01 | | | | | | | | |
| 5655(10) | $2^+$ | | | | | | | | | | | | |
| 5716(10) | $3^-$,$4^-$ | 0+2 | | | 82Ni01 | | | | | | | | |
| 5734(10) | $2^+$ | | | | | | | | | | | | |
| 5763(10) | | | | | | | | | | | | | |
| 5788(10) | $\langle 2^+,3^-\rangle$ | | | | | | | | | | | | |
| 5817(10) | $\langle 2^-,3^-\rangle$ | | | | 72Ra17 | | | | | | | | |
| 5830(20) | $0^+$ | | | | | | | | | | | | |
| 5832.0(2) | $9^-$ | | | 0.40(+15-4) ps | | | | | | | | | |
| 5857(10) | $\langle 2^-,3^-\rangle$ | | | | 72Ra17 | | | | | | | | |
| 5880(20) | $\langle 2^+,3^-\rangle$ | | | | | | | | | | | | |
| 5887(10) | $\langle 0^-,1^-\rangle$ | | | | 72Ra17 | | | | | | | | |
| 5914(10) | | | | | | | | | | | | | |
| 5952(10) | $\langle 2^+\rangle$ | | | | | | | | | | | | |
| 5989(10) | | | | | | | | | | | | | |
| 6030(10) | | | | | | | | | | | | | |
| 6054(10) | | | | | | | | | | | | | |
| 6100(50) | $3^-$,$4^-$ | 0 | | | 82Ni01 | | | | | | | | |
| 6146(10) | $2^+$ | | | | | | | | | | | | |
| 6168(10) | $\langle 0^+\rangle$ | | | | | | | | | | | | |
| 6202(10) | $3^-$,$4^-$ | 0 | | | 82Ni01 | | | | | | | | |
| 6238(10) | $\langle 1^-,2^+\rangle$ | | | | | | | | | | | | |
| 6279(10) | $\langle 1^-,2^+\rangle$ | | | | | | | | | | | | |
| 6282.4(4) | $\langle 9\rangle$ | | | <0.14 ps | | | | | | | | | |
| 6295(10) | $\langle 5^-\rangle$ | | 120(25) | | 90Fi07 | | | | | | | | |
| 6328(10) | | | | | | | | | | | | | |
| 6348(10) | | | | | | | | | | | | | |
| 6370(10) | | | | | | | | | | | | | |
| 6400(10) | $\langle 6^+,7^-\rangle$ | | | | | | | | | | | | |
| 6436(10) | $1^-$ | | | | | | | | | | | | |

(continued) **$^{58}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ | $N$ ($\alpha$,$^2$He) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. | Branching ratios in percentage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | $E_f^*$: | 0.0 | 810.8 | 1675 | 2076 | 2134 | 2258 | 2600 |
| | | | | | | $J_f^\pi$: | $0^+$ | $2^+$ | $2^+$ | $4^+$ | $3^+$ | $0^+$ | $4^+$ |
| 6450(10) | $0^+$ | | | | | | | | | | | | |
| 6476(10) | | | | | | | | | | | | | |
| 6532(10) | | | | | | | | | | | | | |
| 6558(10) | | | | | | | | | | | | | |
| 6580(20) | $\langle 6^+ \rangle$ | | | | | | | | | | | | |
| 6593(10) | | | | | | | | | | | | | |
| 6615(10) | | | | | | | | | | | | | |
| 6636(10) | | | | | | | | | | | | | |
| 6650(20) | $0^+$ | | | | | | | | | | | | |
| 6679(10) | $\langle 3^-,2^- \rangle$ | | | | 72Ra17 | | | | | | | | |
| 6741(10) | | | | | | | | | | | | | |
| 6760(20) | $0^+$ | | | | | | | | | | | | |
| 6771(10) | | | | | | | | | | | | | |
| 6789(10) | | | | | | | | | | | | | |
| 6842(10) | | | | | | | | | | | | | |
| 6870(20) | $\langle 5^- \rangle$ | | | | | | | | | | | | |
| 6909(10) | $1^-$ | | | | | | | | | | | | |
| 6953(10) | $2^+$ | | | | | | | | | | | | |
| 7023(10) | | | | | | | | | | | | | |
| 7028(10) | | | | | | | | | | | | | |
| 7048(10) | $\langle 1^-,2^+ \rangle$ | | | | | | | | | | | | |
| 7060(10) | | | | | | | | | | | | | |
| 7094(10) | | | | | | | | | | | | | |
| 7124(10) | $0^+$ | | | | | | | | | | | | |
| 7166(10) | $1^-$ | | | | | | | | | | | | |
| 7199(10) | | | | | | | | | | | | | |
| 7230(10) | | | | | | | | | | | | | |
| 7241.6(6) | $\langle 10 \rangle$ | | | <0.14 ps | | | | | | | | | |
| 7272(10) | | | | | | | | | | | | | |
| 7289(10) | | | | | | | | | | | | | |
| 7351(10) | | | | | | | | | | | | | |
| 7380(50) | $\langle 8^+ \rangle$ | | 150(35) | | 90Fi07 | | | | | | | | |
| 7429(10) | $\langle 0^-,1^- \rangle$ | | | | 72Ra17 | | | | | | | | |
| 7457(10) | | | | | | | | | | | | | |
| 7473(10) | | | | | | | | | | | | | |
| 7492(10) | | | | | | | | | | | | | |
| 7507(10) | | | | | | | | | | | | | |
| 7534(10) | | | | | | | | | | | | | |
| 7567(10) | | | | | | | | | | | | | |
| 7578(10) | | | | | | | | | | | | | |
| 7585(10) | | | | | | | | | | | | | |
| 7605(10) | | | | | | | | | | | | | |
| 7628(10) | | | | | | | | | | | | | |
| 7653(10) | | | | | | | | | | | | | |
| 7680(10) | | | | | | | | | | | | | |

(continued) **$^{58}_{26}$Fe**

| $E^*$ | $J^\pi$ | $L$ | $N$ | $T_{1/2}$ or | Ref. | Branching ratios in percentage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | $E_f^*$: 0.0 | 810.8 | 1675 | 2076 | 2134 | 2258 | 2600 |
| [keV] | | | ($\alpha$,$^2$He) | $\Gamma_{cm}$ | | $J_f^\pi$: $0^+$ | $2^+$ | $2^+$ | $4^+$ | $3^+$ | $0^+$ | $4^+$ |
| 7690(10) | | | | | | | | | | | | |
| 7729.8(11) | $11^-$ | | | <0.14 ps | | | | | | | | |
| 7734(10) | | | | | | | | | | | | |
| 7775(10) | | | | | | | | | | | | |
| 7797(10) | | | | | | | | | | | | |
| 7824(10) | | | | | | | | | | | | |
| 7846(10) | | | | | | | | | | | | |
| 7883(10) | | | | | | | | | | | | |
| 7901(10) | | | | | | | | | | | | |
| 7918(10) | | | | | | | | | | | | |
| 7946(10) | | | | | | | | | | | | |
| 7974(10) | | | | | | | | | | | | |
| 7997(10) | | | | | | | | | | | | |
| 8018(10) | | | | | | | | | | | | |
| 8045(10) | | | | | | | | | | | | |
| 8065(10) | | | | | | | | | | | | |
| 8084(10) | | | | | | | | | | | | |
| 8100(10) | | | | | | | | | | | | |
| 8121(10) | | | | | | | | | | | | |
| 8137(10) | | | | | | | | | | | | |
| 8157(10) | | | | | | | | | | | | |
| 8182(10) | | | | | | | | | | | | |
| 8310(50) | $\langle 6^+ \rangle$ | | 150(35) | | 90Fi07 | | | | | | | |
| 10044.6(2) | $0^-$,$1^-$ | | | | | 3 | 2 | 12(2) | | | | |
| 10070.5(23) | $13^-$ | | | <0.14 ps | | | | | | | | |
| | | | 90Fi07 | | | | | | | | | |

Energy levels and branching ratios [97Bh02]. Part 3 **$^{58}_{26}$Fe**

| $E^*$ | $J^\pi$ | | | | | Branching ratios in percentage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 2782 | 2864.7 | 2876.5 | 3083.7 | 3244.1 | 3449.8 | 3538.0 | 3596.9 | 3629.6 | 3880.1 |
| [keV] | | $J_f^\pi$: | $1^+$ | | $2^+$ | $2^+$ | $0^+$ | $\langle 4^+ \rangle$ | $1^+$ | $6^+$ | $2^+$ | $1^+$ |
| 3880.1(3) | $1^+$ | | 12(3) | | | | | | | | | |
| 3886.4(1) | $6^+$ | | | | | | | 6 | | 28 | | |
| 4088.5(2) | $4^+$ | | | | | | | | | | x | |
| 4322.6(3) | $1^+$ | | | | 60(5) | 3.4(18) | | | | | | |
| 4444.3(5) | $1^+$ | | 56(12) | | | | | | | | | |
| 4530.2(2) | 1,2 | | | | | 50(9) | | | | | | |
| 4551.0(2) | $1^+$ | | | | 70(5) | | 3.2(4) | | | | | |
| 4669.4(1) | $7^-$ | | | 1.8 | | | | x | | 27(8) | | |
| 5220.9(5) | 1,2 | | | | | 5.9(17) | | | | | | |
| 5294.9(5) | $\langle 1^+$–$3^+ \rangle$ | | 46(9) | | | | | | | | | |

(continued) **$^{58}_{26}$Fe**

| $E^*$ | $J^\pi$ | | | | | Branching ratios in percentage | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 2782 | 2864.7 | 2876.5 | 3083.7 | 3244.1 | 3449.8 | 3538.0 | 3596.9 | 3629.6 | 3880.1 |
| [keV] | | $J_f^\pi$: | $1^+$ | | $2^+$ | $2^+$ | $0^+$ | $\langle 4^+ \rangle$ | $1^+$ | $6^+$ | $2^+$ | $1^+$ |
| 5343.3(2) | $8^+$ | | | | | | | | | 41(15) | | |
| 5502.9(10) | $\langle 8^+ \rangle$ | | | | | | | | | 100 | | |
| 10044.6(2) | $0^-$,$1^-$ | | 12(1) | | 0.6(2) | 11(1) | | | 7(1) | | 1.7(2) | 3.5(3) |

Energy levels and branching ratios [97Bh02]. Part 4 **$^{58}_{26}$Fe**

| $E^*$ | $J^\pi$ | | | | | Branching ratios in percentage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 3886.4 | 4015.0 | 4139.4 | 4214.7 | 4297.8 | 4322.6 | 4352.7 | 4444.3 | 4551.0 | 4669.4 |
| [keV] | | $J_f^\pi$: | $6^+$ | $1^+$ | $1^+$ | $5^-$ | $2^+$ | $1^+$ | $1^+$ | $1^+$ | $1^+$ | $7^-$ |
| 4551.0(2) | $1^+$ | | | | 0.31(4) | | | | | | | |
| 4669.4(1) | $7^-$ | | 55(8) | | | 16 | | | | | | |
| 5343.3(2) | $8^+$ | | 46(15) | | | | | | | | | ≈13 |
| 5415.0(3) | $\langle 1^+$–$3^+ \rangle$ | | | | | | | | | | 93(6) | |
| 5832.0(2) | $9^-$ | | | | | | | | | | | 100 |
| 10044.6(2) | $0^-$,$1^-$ | | | 1.3(2) | 2.6(3) | | 2.5(2) | 2.6(2) | 2.6(2) | 1.2(2) | 11(1) | |

Energy levels and branching ratios [97Bh02]. Part 5 **$^{58}_{26}$Fe**

| $E^*$ | $J^\pi$ | | | | | Branching ratios in percentage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 4833.9 | 5000.2 | 5220.9 | 5294.9 | 5343.3 | 5415.0 | 5523.2 | 5832.0 | 6282.4 | 7729.8 |
| [keV] | | $J_f^\pi$: | $1^+$,$2^+$ | $1^+$ | 1,2 | | $8^+$ | | $0^+$ | $9^-$ | $\langle 9 \rangle$ | $11^-$ |
| 6282.4(4) | $\langle 9 \rangle$ | | | | | | 100 | | | | | |
| 7241.6(6) | $\langle 10 \rangle$ | | | | | | | | | | 100 | |
| 7729.8(11) | $11^-$ | | | | | | | | | 100 | | |
| 10044.6(2) | $0^-$,$1^-$ | | 0.6(3) | 11(1) | 2.5(2) | 3.2(2) | | 3.5(2) | 0.8(2) | | | |
| 10070.5(23) | $13^-$ | | | | | | | | | | | 100 |

Energy levels and branching ratios [02Ba42]. **$^{59}_{26}$Fe**

| $E^*$ | $2J^\pi$ | $L$ | $S'$ | $S'$ | $T_{1/2}$ or | Ref. | Branching ratios in percentage | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | $E_f^*$: 0.0 | 287 | 473 | 571 | 613 |
| [keV] | | | (d,p) | (d,p) | $\Gamma_{cm}$ | | $2J_f^\pi$: $3^-$ | $1^-$ | $5^-$ | $\langle 5 \rangle^-$ | |
| 0.0 | $3^-$ | 1 | 1.45 | 1.3 | 44.49(1) d | 72Mc18 | | | | | |
| 287.021(19) | $1^-$ | 1 | 0.09 | 0.12 | | 72Mc18 | 100 | | | | |
| 472.74(8) | $5^-$ | 3 | 2.10 | 1.7 | | 72Mc18 | 100 | | | | |
| 570.86(4) | $\langle 5 \rangle^-$ | $\langle 1,3 \rangle$ | 0.017 | 0.03 | | 72Mc18 | 100 | | | | |

(continued) **$^{59}_{26}$Fe**

| $E^*$ [keV] | $2J^\pi$ | $L$ | $S'$ (d,p) | $S'$ (d,p) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. | $E_f^*$: $2J_f^\pi$: | Branching ratios in percentage 0.0 $3^-$ | 287 $1^-$ | 473 $5^-$ | 571 $\langle 5\rangle^-$ | 613 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 613.04(16) | | | | | | | | 100 | | | | |
| 642.8(3) | | | | | | | | 100 | | | | |
| 726.41(5) | $3^-$ | 1 | 0.50 | 0.43 | | 72Mc18 | | 96 | 3.6(2) | | | |
| 1023.14(10) | $7^-$ | 3 | 0.19 | 0.14 | | 72Mc18 | | 55(3) | | 5(2) | 40(3) | |
| 1077.79(12) | $1^-$,$3^-$ | 1 | 0.010 | | | 72Mc18 | | | | | | 100 |
| 1162.08(4) | $3^-$ | 1 | 0.009 | | | 72Mc18 | | 10(1) | 19.8(2) | 2.1(6) | 68(3) | |
| 1211.33(11) | $1^-$ | 1 | 1.19 | 0.91 | | 72Mc18 | | 100 | | | | |
| 1517.23(17) | $9^+$ | 4 | 5.10 | 3.8 | 145(25) ps | 72Mc18 | | | | | | |
| 1569.90(8) | $5^-$ | 3 | 0.53 | | | 72Mc18 | | 100 | | | | |
| 1648(10) | $5^+$ | 2 | 0.77 | 0.66 | | 72Mc18 | | | | | | |
| 1749.78(14) | $3^-$,$5^-$ | | | | | | | 67(9) | | | | |
| 1918.90(5) | $3,5^+$ | | | | | | | 77(2) | | | | |
| 1961.96(6) | $1^-$ | 1 | 0.05 | | | 72Mc18 | | 25(5) | | | | 7(2) |
| 2161.9(9) | $1,3,5^+$ | | | | | | | | | | | 100 |
| 2277.9(4) | | | | | | | | 45(18) | | | | |
| 2312.24(22) | $\langle 13^+\rangle$ | | | | 4.7(6) ps | | | | | | | |
| 2322.4(6) | $1,3,5^+$ | | | | | | | 100 | | | | |
| 2348.2(4) | $1,3,5^-$ | | | | | | | | | | | |
| 2349.0(9) | $\langle 7\rangle^-$ | 3 | 1.26 | | | 80Ta05 | | 100 | | | | |
| 2390(10) | | | | | | | | | | | | |
| 2447.27(6) | $\langle 3\rangle$ | | | | | | | 6.8(6) | 62(2) | | | |
| 2493.8(4) | $\langle 7^-,9^-\rangle$ | | | | | | | 100 | | | | |
| 2569.9(6) | $3^-$ | | | 1.26 | | 80Ta05 | | | | | | 100 |
| 2735(10) | | | | | | | | | | | | |
| 2756.9(7) | $1,3,5^+$ | | | | | | | | | | | |
| 2810.27(16) | $1^-$ | 1 | 0.07 | | | 72Mc18 | | | | | | |
| 2856(10) | $1^-$ | 1 | 0.04 | | | 72Mc18 | | | | | | |
| 2947(10) | $3^-$,$5^-$ | | | | | | | | | | | |
| 2990(10) | | | | | | | | | | | | |
| 3020(10) | | | | | | | | | | | | |
| 3070.6(4) | $3^-$ | | | | | | | 62(19) | | | | |
| 3104.4(3) | $3^-$ | | | | | | | | | | 37(3) | |
| 3159.67(16) | $3^-$ | | | | | | | | 100 | | | |
| 3169(10) | | | | | | | | | | | | |
| 3194(10) | | | | | | | | | | | | |
| ≈3225 | $1^+$,$3^+$ | | | | | | | | | | | |
| 3239.6(3) | $1,3,5^+$ | | | | | | | 100 | | | | |
| 3280(10) | $3^-$,$5^-$ | | | | | | | | | | | |
| 3311(10) | | | | | | | | | | | | |
| 3384.3(7) | $3^-$ | | | | | | | | 41(12) | | | |
| 3452(10) | | | | | | | | | | | | |
| ≈3543 | $3^-$,$5^-$ | | | | | | | | | | | |
| 3559.7(7) | | | | | >0.4 ps | | | | | | | |
| 3565(10) | | | | | | | | | | | | |
| 3600(10) | | | | | | | | | | | | |

(continued) **$^{59}_{26}$Fe**

| $E^*$ | $2J^\pi$ | $L$ | $S'$ | $S'$ | $T_{1/2}$ or | Ref. | Branching ratios in percentage | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | $E_f^*$: | 0.0 | 287 | 473 | 571 | 613 |
| [keV] | | | (d,p) | (d,p) | $\Gamma_{cm}$ | | $2J_f^\pi$: | $3^-$ | $1^-$ | $5^-$ | $\langle 5\rangle^-$ | |
| 3639(10) | | | | | | | | | | | | |
| 3668(10) | | | | | | | | | | | | |
| 3734(10) | | | | | | | | | | | | |
| 3737.8(7) | $\langle 15\rangle$ | | | | <0.3 ps | | | | | | | |
| 3824(10) | | | | | | | | | | | | |
| 3872(10) | | | | | | | | | | | | |
| 3921(10) | | | | | | | | | | | | |
| 3989(10) | | | | | | | | | | | | |
| 4045(10) | | | | | | | | | | | | |
| 4083(10) | | | | | | | | | | | | |
| 4124(10) | | | | | | | | | | | | |
| 4159(10) | | | | | | | | | | | | |
| 4181(10) | | | | | | | | | | | | |
| 4224(10) | | | | | | | | | | | | |
| 4277(10) | | | | | | | | | | | | |
| 4377(10) | | | | | | | | | | | | |
| 4409(10) | | | | | | | | | | | | |
| 4423(10) | | | | | | | | | | | | |
| 4516(10) | | | | | | | | | | | | |
| 4541(10) | | | | | | | | | | | | |
| 4580(10) | | | | | | | | | | | | |
| 4629(10) | | | | | | | | | | | | |
| 4650(10) | | | | | | | | | | | | |
| 4660(10) | | | | | | | | | | | | |
| 4686(10) | | | | | | | | | | | | |
| 4770(10) | | | | | | | | | | | | |
| 4830(10) | | | | | | | | | | | | |
| 4870(10) | | | | | | | | | | | | |
| 4985.2(9) | | | | | >0.4 ps | | | | | | | |
| | | | 72Mc18 | 80Ta05 | | Ref. | | | | | | |

Additional data on this isotope can be found in [01Oi02, 68Gr18, 67Kl03, 64Sp03].
Uncertainties in $E^*$, $T_{1/2}$ and branching ratios are given in Supplement.
Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [02Ba42]. Part 2 **$^{59}_{26}$Fe**

| $E^*$ | $2J^\pi$ | | | | | Branching ratios in percentage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 643 | 726 | 1023 | 1078 | 1162 | 1211 | 1517 | 1750 | 2278 | 2312 |
| [keV] | | $2J_f^\pi$: | | $3^-$ | $7^-$ | $1^-$,$3^-$ | $3^-$ | $1^-$ | $9^+$ | $3^-$,$5^-$ | | $\langle 13^+\rangle$ |
| 1517.23(17) | $9^+$ | | | | 100 | | | | | | | |
| 1749.78(14) | $3^-$,$5^-$ | | | | | | | 33(17) | | | | |
| 1918.90(5) | $3,5^+$ | | | 9.8(5) | | 10.3(8) | 3.4(4) | | | | | |

(continued) **$^{59}_{26}$Fe**

| $E^*$ | $2J^\pi$ | Branching ratios in percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 643 | 726 | 1023 | 1078 | 1162 | 1211 | 1517 | 1750 | 2278 | 2312 |
| [keV] | | $2J_f^\pi$: | | $3^-$ | $7^-$ | $1^-$,$3^-$ | $3^-$ | $1^-$ | $9^+$ | $3^-$,$5^-$ | | $\langle 13^+ \rangle$ |
| 1961.96(6) | $1^-$ | | | 68(3) | | | | | | | | |
| 2277.9(4) | | | | 55(27) | | | | | | | | |
| 2312.24(22) | $\langle 13^+ \rangle$ | | | | | | | | 100 | | | |
| 2348.2(4) | 1,3,$5^-$ | | | | | | | 100 | | | | |
| 2447.27(6) | $\langle 3 \rangle$ | | | 19(4) | | | | | | 11.4(14) | | |
| 2756.9(7) | 1,3,$5^+$ | | | | | | | 100 | | | | |
| 2810.27(16) | $1^-$ | | | 19(2) | | 11(4) | | 60(4) | | 10(3) | | |
| 3070.6(4) | $3^-$ | | 38(12) | | | | | | | | | |
| 3104.4(3) | $3^-$ | | | | | | | | | | 11(3) | |
| 3559.7(7) | | | | | | | | | | | | 100 |
| 3737.8(7) | $\langle 15 \rangle$ | | | | | | | | | | | 100 |

Energy levels and branching ratios [02Ba42]. Part 3 **$^{59}_{26}$Fe**

| $E^*$ | $2J^\pi$ | Branching ratios in percentage | | | |
|---|---|---|---|---|---|
| | | $E_f^*$: | 2494 | 2757 | 3738 |
| [keV] | | $2J_f^\pi$: | $\langle 7^-,9^- \rangle$ | 1,3,$5^+$ | $\langle 15 \rangle$ |
| 3104.4(3) | $3^-$ | | 53(7) | | |
| 3384.3(7) | $3^-$ | | | 59(12) | |
| 4985.2(9) | | | | | 100 |

Energy levels and branching ratios [03Tu08]. **$^{60}_{26}$Fe**

| $E^*$ | $J^\pi$ | $L$ | $\varepsilon$ | $N$ | $T_{1/2}$ or | Ref. | Branching ratios in percentage | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | $E_f^*$: | 0.0 | 824 | 2114 | 2299 | 2673 |
| [keV] | | | (t,p) | ($\alpha$,$^2$He) | $\Gamma_{cm}$ | | $J_f^\pi$: | $0^+$ | $2^+$ | $4^+$ | $2^+$ | $2^+$ |
| 0.0 | $0^+$ | 0 | 1.05 | 260(100) | $1.5(3)\cdot10^6$ yr | 86Wa03 | | | | | | |
| 823.63(15) | $2^+$ | 2 | 0.13 | | 8.0(15) ps | 86Wa03 | | 100 | | | | |
| 1973.8(5) | $0^+$ | 0 | 0.08 | | | 86Wa03 | | | 100 | | | |
| 2114.52(23) | $4^+$ | 4 | 0.05 | | 0.83(21) ps | 86Wa03 | | | 100 | | | |
| 2299.4(4) | $2^+$ | 2 | 0.16 | | | 86Wa03 | | 55(7) | 45(4) | | | |
| 2358(3) | $0^+$ | 0 | 0.16 | | | 86Wa03 | | | | | | |
| 2672.7(9) | $2^+$ | 2 | 0.59 | | | 86Wa03 | | | 100 | | | |
| 2755.7(11) | $2^+$ | 2 | 0.24 | | | 86Wa03 | | | 100 | | | |
| 2792.4(4) | $4^+$ | | | | | | | | 72(4) | 3.0(7) | 24.8(14) | |
| 3038.7(11) | $2^+$ | 2 | 0.25 | | | 86Wa03 | | | 100 | | | |
| 3072.0(7) | $4^+$ | 4 | 0.29 | 60(20) | | 86Wa03 | | | 65(10) | 35(10) | | |
| 3293(4) | $3^-$ | 3 | 8.77 | | | 86Wa03 | | | | | | |
| 3307.7(9) | | | | | | | | | 50(10) | | | 50(10) |

(continued) **$^{60}_{26}$Fe**

| $E^*$ [keV] | $J^\pi$ | $L$ | $\varepsilon$ (t,p) | $N$ ($\alpha$,$^2$He) | $T_{1/2}$ or $\Gamma_{cm}$ | Ref. | Branching ratios in percentage $E^*_f$: 0.0 $J^\pi_f$: $0^+$ | 824 $2^+$ | 2114 $4^+$ | 2299 $2^+$ | 2673 $2^+$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3502(4) | $4^+$ | 4 | 0.17 | | | 86Wa03 | | | | | |
| 3516.1(3) | $\langle 5\rangle$ | | | | 49(21) ps | | | | 100 | | |
| 3519.9(4) | $\langle 6^+\rangle$ | | | | | | | | x | | |
| 3520(50) | $\langle 4^+\rangle$ | | | 60(30) | | 90Fi07 | | | | | |
| 3562(5) | $\langle 3^-\rangle$ | | | | | | | | | | |
| 3581.9(4) | $\langle 6^+\rangle$ | | | | | | | | x | | |
| 3635(4) | $2^+$ | 2 | 0.33 | | | 86Wa03 | | | | | |
| 3647.7(9) | | | | | | | | 100 | | | |
| 3698(5) | $0^+$ | 0 | 0.20 | | | 86Wa03 | | | | | |
| 3713.7(11) | | | | | | | | 100 | | | |
| 3867(5) | $3^-$ | 3 | 7.53 | | | 86Wa03 | | | | | |
| 3874.7(9) | | | | | | | | x | | | |
| 3929.7(11) | $2^+$ | 2 | 0.15 | | | 86Wa03 | | 100 | | | |
| 3954.4(4) | $\langle 6\rangle$ | | | | >0.4 ps | | | | | | |
| 3959.0(4) | $\langle 7^+\rangle$ | | | | | | | | | | |
| 4053(8) | $3^-$ | 3 | 9.18 | | | 86Wa03 | | | | | |
| 4176(8) | $2^+$ | 2 | 0.15 | | | 86Wa03 | | | | | |
| 4280(8) | $3^-$ | 3 | 1.19 | | | 86Wa03 | | | | | |
| 4293.0(4) | | | | | >0.4 ps | | | | | | |
| 4298.1(5) | | | | | | | | | | | |
| ≈4350 | $7^-$ | | | 70(10) | | 90Fi07 | | | | | |
| 4359.1(6) | $5^-$ | 5 | 2.04 | | | 86Wa03 | | | | | |
| 4440(10) | $3^-$ | 3 | 7.51 | | | 86Wa03 | | | | | |
| 4503(10) | $4^+$ | 4 | 0.04 | | | 86Wa03 | | | | | |
| 4650(10) | $2^+$ | 2 | 0.14 | | | 86Wa03 | | | | | |
| 4755(9) | $\langle 3^-\rangle$ | $\langle 3\rangle$ | 5.25 | | | 86Wa03 | | | | | |
| 4958(9) | $4^+$ | 4 | 0.11 | | | 86Wa03 | | | | | |
| 5002.9(4) | | | | | 0.8(+13-4) ps | | | | | | |
| 5029(10) | $4^+$ | 4 | 0.09 | | | 86Wa03 | | | | | |
| 5103(10) | $2^+$ | 2 | 0.35 | | | 86Wa03 | | | | | |
| 5218(16) | $3^-$ | 3 | 13.0 | | | 86Wa03 | | | | | |
| ≈5310 | $\langle 5^-\rangle$ | | | 60(20) | | 90Fi07 | | | | | |
| 5434(17) | | | | | | | | | | | |
| 5550.3(5) | | | | | | | | | | | |
| 5596(18) | | | | | | | | | | | |
| ≈5620 | $\langle 7^-\rangle$ | | | 20(5) | | 90Fi07 | | | | | |
| ≈6620 | $\langle 8^+,6^+\rangle$ | | | 79(20) | | 90Fi07 | | | | | |
| | | | 86Wa03 | 90Fi07 | | Ref. | | | | | |

Additional data on this isotope can be found in [00Wi18].

The enhancement factor is defined as $\varepsilon=(d\sigma/d\Omega)(exp)/(d\sigma/d\Omega)(DWBA)/230$ [86Wa03].

Parameter N=($d\sigma/d\Omega$ (exp)/$d\sigma/d\Omega$ (DWBA)) has a meaning of $S_N$ in the case of two-neutron transfer reaction ($\alpha$,$^2$He).

Data for this isotope are considered in vol. LB I/18A.

Energy levels and branching ratios [03Tu08]. Part 2 **$^{60}_{26}$Fe**

| $E^*$ | $J^\pi$ | | Branching ratios in percentage | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 3516.1 | 3520 | 3581.9 | 3647.7 | 3954.4 | 3959.0 |
| [keV] | | $J_f^\pi$: | $\langle 5 \rangle$ | $\langle 4^+ \rangle$ | $\langle 6^+ \rangle$ | | $\langle 6 \rangle$ | $\langle 7^+ \rangle$ |
| 3874.7(9) | | | | | | x | | |
| 3954.4(4) | $\langle 6 \rangle$ | | 100 | | | | | |
| 3959.0(4) | $\langle 7^+ \rangle$ | | x | x | x | | | |
| 4293.0(4) | | | | | | | 100 | |
| 4298.1(5) | | | | | | | | x |
| 4359.1(6) | $5^-$ | | 100 | | | | | |
| 5002.9(4) | | | | | | | 100 | |
| 5550.3(5) | | | | | x | | | |

Energy levels and branching ratios [99Bh04]. **$^{61}_{26}$Fe**

| $E^*$ | $2J^\pi$ | $T_{1/2}$ or | | Branching ratios in percentage | | |
|---|---|---|---|---|---|---|
| | | | $E_f^*$: | 0.0 | 206.76 | 390.99 |
| [keV] | | $\Gamma_{cm}$ | $2J_f^\pi$: | $3^-,5^-$ | $\langle 5,7 \rangle^-$ | |
| 0.0 | $3^-,5^-$ | 5.98(6) m | | | | |
| 206.76(18) | $\langle 5,7 \rangle^-$ | | | 100 | | |
| 390.99(18) | | | | 100 | | |
| 628.66(16) | | | | 93(3) | 3.8(5) | 2.8(3) |
| 861 | $\langle 9^+ \rangle$ | 0.25 $\mu$s | | | 100 | |
| 1690(20) | | | | | | |
| ≈2130 | | | | | | |

Energy levels and branching ratios [99Si11, 00Hu18]. **$^{62}_{26}$Fe**

| $E^*$ | $J^\pi$ | $T_{1/2}$ or | | Branching ratios in percentage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | $E_f^*$: | 0 | 876.8 | 1818.8 | 2175.9 | 3011 | 3017 | 3312 |
| [keV] | | $\Gamma_{cm}$ | $J_f^\pi$: | $0^+$ | $\langle 2^+ \rangle$ | $\langle 0^+ \rangle$ | $\langle 4^+ \rangle$ | | | |
| 0 | $0^+$ | 68(2) s | | | | | | | | |
| 876.8(3) | $\langle 2^+ \rangle$ | | | 100 | | | | | | |
| 1818.8(5) | $\langle 0^+ \rangle$ | | | | 100 | | | | | |
| 2016.0(8) | $\langle 2^+ \rangle$ | | | 100 | | | | | | |
| 2175.9(5) | $\langle 4^+ \rangle$ | | | | 100 | | | | | |
| 3011 | | | | | | | x | | | |
| 3017 | | | | | | | x | | | |
| 3312 | | | | | | | | x | x | |
| 3390 | $\langle 6^+ \rangle$ | | | | | | x | | | |
| 3606 | | | | | | | | | x | x |
| 3631 | | | | | | | | | | |
| 3633.6(6) | $\langle 2^+ \rangle$ | | | | | 59(21) | 41(18) | | | |

(continued) **$^{62}_{26}$Fe**

| $E^*$ | $J^\pi$ | $T_{1/2}$ or | Branching ratios in percentage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | $E_f^*$: | 0 | 876.8 | 1818.8 | 2175.9 | 3011 | 3017 | 3312 |
| [keV] | | $\Gamma_{cm}$ | $J_f^\pi$: $0^+$ | $\langle 2^+ \rangle$ | $\langle 0^+ \rangle$ | $\langle 4^+ \rangle$ | | | |
| 4255 | $\langle 8^+ \rangle$ | | | | | | | | |
| 4970(80) | | | | | | | | | |
| 5323 | $\langle 10^+ \rangle$ | | | | | | | | |

Additional data on this isotope can be found in [00Wi18].

Energy levels and branching ratios [99Si11, 00Hu18]. Part 2 **$^{62}_{26}$Fe**

| $E^*$ | $J^\pi$ | Branching ratios in percentage | |
|---|---|---|---|
| | | $E_f^*$: | 3390 | 4255 |
| [keV] | | $J_f^\pi$: | $\langle 6^+ \rangle$ | $\langle 8^+ \rangle$ |
| 3631 | | | x | |
| 4255 | $\langle 8^+ \rangle$ | | x | |
| 5323 | $\langle 10^+ \rangle$ | | | x |