

Target isotope:  $^{96}_{44}\text{Ru}$   $I^\pi_\circ = 0^+$  Abundance: 5.54(14) %  $S_\text{p} = 3806(35)$  keV

**$^{97}_{45}\text{Rh}(\text{p})$**

$E_\circ$	$2J^\pi$	$\Gamma_\text{p}$	$\Gamma$	$\Gamma_\text{p}(2T_\circ+1)/\Gamma_\text{sp}$	$E^*_{\text{analog}}$	$E_\text{cm}$	$E^*$	Ref.
[keV]		[keV]	[keV]		[keV]	[keV]	[keV]	
4740(10)	$\langle 5^+ \rangle$	0.5(1)	20(4)	0.26(5)	0.0	4691	8497(10)	93Ar09 69Fr18
5640(10)	$\langle 1^+ \rangle$				908	5582	9388(10)	93Ar09 69Fr18

The ratio  $\Gamma_\text{p}(2T_\circ+1)/\Gamma_\text{sp}$  introduced in [69Fr18] is a measure of the spectroscopic factor for adding a nucleon to the target.

Value  $\Gamma_\text{sp}$ , the single-particle width, is estimated for the ground state analog using real Saxon-Woods potential.

$T_\circ$  is the isobaric spin of the target ground state.

Target isotope:  $^{98}_{44}\text{Ru}$   $I^\pi_\circ = 0^+$  Abundance: 1.87(3) %  $S_\text{p} = 4638.9(94)$  keV

**$^{99}_{45}\text{Rh}(\text{p})$**

$E_\circ$	$2J^\pi$	$\Gamma_\text{p}$	$\Gamma$	$\Gamma_\text{p}(2T_\circ+1)/\Gamma_\text{sp}$	$E^*_{\text{analog}}$	$E_\text{cm}$	$E^*$	Ref.
[keV]		[keV]	[keV]		[keV]	[keV]	[keV]	
5305(10)	$5^+$	2	30(6)	0.33(7)	0.0	5252	9891(10)	69Fr18 94Pe15
5650(10)	$7^+$				340.7	5590	10229(10)	69Fr18
5780(10)	$1^+$	3	30(6)		442.7	5720	10359(10)	69Fr18
5910(10)	$1^+$	13(2)	45(9)		618.0	5850	10489(10)	69Fr18

The ratio  $\Gamma_\text{p}(2T_\circ+1)/\Gamma_\text{sp}$  [69Fr18] is a measure of the nucleon spectroscopic factor.

Value  $\Gamma_\text{sp}$ , the single-particle width, is estimated for the ground state analog using real Saxon-Woods potential.

$T_\circ$  is the isobaric spin of the target ground state.

Target isotope:  $^{100}_{44}\text{Ru}$   $I^\pi_\circ = 0^+$  Abundance: 12.60(7) %  $S_\text{p} = 5478(17)$  keV

**$^{101}_{45}\text{Rh}(\text{p})$**

$E_\circ$	$2J^\pi$	$\Gamma_\text{p}$	$\Gamma$	$\Gamma_\text{p}(2T_\circ+1)/\Gamma_\text{sp}$	$E^*_{\text{analog}}$	$E_\text{cm}$	$E^*$	Ref.
[keV]		[keV]	[keV]		[keV]	[keV]	[keV]	
5880(10)	$5^+$	2.5(8)	30(4)	0.23(5)	0.0	5822	11300(20)	69Fr18 98Bl03 79Ha39
6180(10)					$\langle 311 \rangle$	6119	11597(20)	69Fr18 98Bl03 79Ha39
6190(20)	$1^+$	13(3)	55(10)		325	6129	11607(20)	69Fr18 79Ha39 77Ho02
6425(10)	$\langle 3^+, 5^+ \rangle$				$\langle 545 \rangle$	6361	11839(20)	69Fr18 98Bl03 79Ha39 77Ho02
6520(10)					630	6455	11933(20)	69Fr18 98Bl03 79Ha39

The ratio  $\Gamma_\text{p}(2T_\circ+1)/\Gamma_\text{sp}$  [69Fr18] is a measure of the nucleon spectroscopic factor.

<i>Target isotope:</i> $^{101}_{44}\text{Ru}$ $I^\pi_{\text{o}} = 5/2^+$ <i>Abundance:</i> 17.06(2) % $S_{\text{p}} = 6114.7(46)$ keV							$^{102}_{45}\text{Rh}(\text{p})$
$E_{\text{o}}$	$J^\pi$	$\Gamma_{\text{p}}$	$\Gamma$	$E^*_{\text{analog}}$	$E_{\text{cm}}$	$E^*$	Ref.
[keV]		[keV]	[keV]	[keV]	[keV]	[keV]	
3410(10)	$\langle 0^+ \rangle$			0.0	3377(11)	9490(11)	69Fr18

<i>Target isotope:</i> $^{102}_{44}\text{Ru}$ $I^\pi_{\text{o}} = 0^+$ <i>Abundance:</i> 31.55(14) % $S_{\text{p}} = 6213.4(21)$ keV								$^{103}_{45}\text{Rh}(\text{p})$	
$E_{\text{o}}$	$2J^\pi$	$\Gamma_{\text{p}}$	$\Gamma$	$\Gamma_{\text{p}}(2T_{\text{o}}+1)/\Gamma_{\text{sp}}$	$E^*_{\text{analog}}$	$E_{\text{cm}}$	$E^*$	Ref.	
[keV]		[keV]	[keV]		[keV]	[keV]	[keV]		
6380(10)	$\langle 5^+ \rangle$	4(1)	35(7)	0.25(5)	0.0	6257	12533(10)	69Fr18	79Ha40
6530(10)	$1^+$	24(5)	60(12)		174	6404	12693(10)	69Fr18	79Ha40
6790(10)	$3^+, 5^+$	1.5(3)	30(6)		405	6659	12933(10)	69Fr18	79Ha40

The ratio  $\Gamma_{\text{p}}(2T_{\text{o}}+1)/\Gamma_{\text{sp}}$  [69Fr18] is a measure of the nucleon spectroscopic factor.

<i>Target isotope:</i> $^{104}_{44}\text{Ru}$ $I^\pi_{\text{o}} = 0^+$ <i>Abundance:</i> 18.62(27) % $S_{\text{p}} = 7044.6(36)$ keV								$^{105}_{45}\text{Rh}(\text{p})$		
$E_{\text{o}}$	$2J^\pi$	$\Gamma_{\text{p}}$	$\Gamma$	$\Gamma_{\text{p}}(2T_{\text{o}}+1)/\Gamma_{\text{sp}}$	$E^*_{\text{analog}}$	$E_{\text{cm}}$	$E^*$	Ref.		
[keV]		[keV]	[keV]		[keV]	[keV]	[keV]			
6620(10)	$3^+$	3	40(8)	0.14(3)	0.0	6577	13621(11)	69Fr18	93De15	98Hu22
6750(10)	$1^+$	13(2)	52(10)		159	6710	13755(11)	69Fr18	93De15	98Hu22
7080(10)	$3^+, 5^+$	9	55(10)	0.39(8)	442	7013	14057(11)	69Fr18	93De15	
7260(10)	$\langle 1^+ \rangle$				631	7191	14235(11)	69Fr18	93De15	

The ratio  $\Gamma_{\text{p}}(2T_{\text{o}}+1)/\Gamma_{\text{sp}}$  [69Fr18] is a measure of the nucleon spectroscopic factor.