

I/16C: Low Energy Neutron Physics – Tables of Neutron Resonance Parameters

Introduction (S.I. SUKHORUCHKIN, Z.N. SOROKO)

- General remarks
- Presentation of the data
- List of notations, definition of parameters
- Resonance parameter data for reactor materials
- The GELINA time-of-flight facility (P. RULLHUSEN, H. WEIGMANN)
- New resonance data from measurements at GELINA (H. WEIGMANN)
- The data from transmission experiments at GELINA (A. BRUSEGAN)
- Capture cross section measurements (F. CORVI)
- Statistical model and parity nonconservation effects
- Astrophysical applications
- Data correction
- Conclusions
- Acknowledgement

Tables (S.I. SUKHORUCHKIN, Z.N. SOROKO)

2-Helium He-3 He-4	8-Oxygen O-16 O-17 O-18	14-Silicon Si-28 Si-29 Si-30	20-Calcium Ca-40 Ca-41 Ca-42 Ca-43 Ca-44 Ca-46 Ca-48
3-Lithium Li-6 Li-7	9-Fluorine F-19	15-Phosphorus P-31	21-Scandium Sc-45
4-Beryllium Be-7 Be-8 Be-9	10-Neon Ne-20 Ne-21 Ne-22	16-Sulfur S-32 S-33 S-34 S-36	22-Titanium Ti-46 Ti-47 Ti-48 Ti-49 Ti-50
5-Boron B-10 B-11	11-Sodium Na-22 Na-23	17-Chlorine Cl-35 Cl-36 Cl-37	23-Vanadium V-50 V-51
6-Carbon C-12 C-13 C-14	12-Magnesium Mg-24 Mg-25 Mg-26	18-Argon Ar-36 Ar-37 Ar-40	
7-Nitrogen N-14 N-15	13-Aluminium Al-26 Al-27	19-Potassium K-39 K-40 K-41	

24-Chromium

Cr-50
Cr-52
Cr-53
Cr-54

25-Manganese

Mn-55

26-Iron

Fe-54
Fe-56
Fe-57
Fe-58

27-Cobalt

Co-59
Co-60

28-Nickel

Ni-58
Ni-59
Ni-60
Ni-61
Ni-62
Ni-64

29-Copper

Cu-63
Cu-65

30-Zinc

Zn-64
Zn-66
Zn-67
Zn-68
Zn-70

31-Gallium

Ga-69
Ga-71

32-Germanium

Ge-70
Ge-72
Ge-73
Ge-74
Ge-76

33-Arsenic

As-75

34-Selenium

Se-74
Se-76
Se-77
Se-78
Se-80
Se-82

35-Bromium

Br-79
Br-81

36-Krypton

Kr-78
Kr-80
Kr-82
Kr-83
Kr-84
Kr-86

37-Rubidium

Rb-85
Rb-87

38-Strontium

Sr-84
Sr-86
Sr-87
Sr-88

39-Yttrium

Y-89

40-Zirconium

Zr-90
Zr-91
Zr-92
Zr-93
Zr-94
Zr-96

41-Niobium

Nb-93
Nb-94

42-Molybdenum

Mo-92
Mo-94
Mo-95
Mo-96
Mo-97
Mo-98
Mo-100

43-Technetium

Tc-99

44-Ruthenium

Ru-99
Ru-100
Ru-101
Ru-102
Ru-103
Ru-104

45-Rhodium

Rh-103

46-Palladium

Pd-102
Pd-104
Pd-105
Pd-106
Pd-107
Pd-108
Pd-110

47-Silver

Ag-107
Ag-109
Ag-110m

48-Cadmium

Cd-106
Cd-108
Cd-110
Cd-111
Cd-112
Cd-113
Cd-114
Cd-116

49-Indium

In-113
In-115

50-Tin

Sn-112
Sn-113
Sn-114
Sn-115
Sn-116
Sn-117
Sn-118
Sn-119
Sn-120
Sn-122
Sn-124

51-Antimony

Sb-121
Sb-123

52-Tellurium

Te-122
Te-123
Te-124
Te-125
Te-126
Te-128
Te-130

53-Iodine

I-127
I-129

54-Xenon

Xe-124
Xe-126
Xe-128
Xe-129
Xe-130
Xe-131
Xe-132
Xe-134
Xe-135
Xe-136

55-Caesium

Cs-133
Cs-134
Cs-135

56-Barium

Ba-130
Ba-132
Ba-133
Ba-134
Ba-135
Ba-136
Ba-137
Ba-138

57-Lanthanum

La-138
La-139

58-Cerium

Ce-136
Ce-140
Ce-141
Ce-142

59-Praseodymium

Pr-141
Pr-143

60-Neodymium

Nd-142
Nd-143
Nd-144
Nd-145
Nd-146
Nd-147
Nd-148
Nd-150

61-Promethium

Pm-147
Pm-148m

62-Samarium

Sm-144
Sm-147
Sm-148
Sm-149
Sm-150
Sm-151
Sm-152
Sm-154

63-Europium

Eu-151
Eu-152
Eu-152m
Eu-153
Eu-154
Eu-155

64-Gadolinium

Gd-152
Gd-153
Gd-154
Gd-155
Gd-156
Gd-157
Gd-158
Gd-160

65-Terbium

Tb-159
Tb-160

66-Dysprosium

Dy-156
Dy-158
Dy-160
Dy-161
Dy-162
Dy-163
Dy-164

67-Holmium

Ho-165
Ho-166m

68-Erbium

Er-162
Er-164
Er-166
Er-167
Er-168
Er-170

69-Thulium

Tm-169
Tm-170
Tm-171

70-Ytterbium

Yb-168
Yb-169
Yb-170
Yb-171
Yb-172
Yb-173
Yb-174
Yb-176

71-Lutetium

Lu-175
Lu-176

72-Hafnium

Hf-174
Hf-176
Hf-177
Hf-178
Hf-178m
Hf-179
Hf-180

73-Tantalum

Ta-180m
Ta-181
Ta-182

74-Tungsten

W-180
W-181
W-182
W-183
W-184
W-185
W-186

75-Rhenium

Re-185
Re-186
Re-187

76-Osmium

Os-186
Os-187
Os-188
Os-189
Os-190
Os-192

77-Iridium

Ir-191
Ir-192
Ir-193

78-Platinum

Pt-190
Pt-192
Pt-194
Pt-195
Pt-196
Pt-198

79-Gold

Au-197

80-Mercury

Hg-196
Hg-198
Hg-199
Hg-200
Hg-201
Hg-202
Hg-204

81-Thallium

Tl-203
Tl-204
Tl-205

82-Lead

Pb-204
Pb-206
Pb-207
Pb-208

83-Bismuth

Bi-209

88-Radium

Ra-226

90-Thorium

Th-228
Th-229
Th-230
Th-232

91-Protactinium

Pa-231
Pa-232
Pa-233

92-Uranium

U-232
U-233
U-234
U-235
U-236
U-237
U-238

93-Neptunium

Np-236
Np-237
Np-238

94-Plutonium

Pu-236
Pu-238
Pu-239
Pu-240
Pu-241
Pu-242
Pu-244

95-Americium

Am-241
Am-242m
Am-243

96-Curium

Cm-242
Cm-243
Cm-244
Cm-245
Cm-246
Cm-247
Cm-248

97-Berkelium

Bk-249

98-Californium

Cf-249
Cf-250
Cf-251
Cf-252

Energy-ordered list of resonances

List of references

Tables of Neutron Resonance Parameters (Supplement
to Subvolume B)

2004, X, 515 p. 13 illus. With CD-ROM., Hardcover

ISBN: 978-3-540-42828-2