^{230}Th(n,γ),(n,n):resonances 2018MuZZ

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Jagdish K. Tuli, and Edgardo Browne	NDS 185, 560 (2022)	31-Aug-2022

A total of 28 s-wave neutron resonances are reported between 1.427 *5* keV and 563 keV, with resonance parameters in 2018MuZZ evaluation.

References for measurements: 1968Co28 and others listed in 2018MuZZ.

^{230}Th(n,F): fission cross section and angular distribution measurements: 1989Bl10 (E(n)=680-760 keV), 1984Bl04 (E(n)=0.7-2.2 MeV), 1983Ja01 (E(n)=695-740 keV), 1978Bl01 (E(n)=690-760 keV), 1972Ja11 (E(n)=0.625-1.4 MeV).

S(n)(^{231}Th)=5118.02 *20* (2021Wa16).

^{231}Th Levels

E(level)	J$^\pi$	gΓ_n [†]	L	Comments
S(n)-0.0086?	1/2$^+$		0	E(level): fictitious level, assumed Γ_γ=0.026 eV.
S(n)+0.00143	1/2$^+$	0.36×10^{-3} eV	0	E(level): E(n)=0.001427 keV *5*. gΓ_n=0.000358 eV *6*. Γ_γ=0.0257 eV *15*.
S(n)+0.01727 *4*	1/2$^+$	0.0131 eV *6*	0	Γ_γ=0.0223 eV *32*.
S(n)+0.02384 *7*	1/2$^+$	0.0111 eV *6*	0	Γ_γ=0.0266 eV *40*.
S(n)+0.0322 *1*	1/2$^+$	0.0033 eV *1*	0	Γ_γ=0.0299 eV *52*.
S(n)+0.0398 *1*	1/2$^+$	0.0085 eV *3*	0	Γ_γ=0.0291 eV *34*.
S(n)+0.0481 *2*	1/2$^+$	0.0100 eV *4*	0	Γ_γ=0.0290 eV *49*.
S(n)+0.0645 *2*	1/2$^+$	0.0031 eV *3*	0	
S(n)+0.0756 *2*	1/2$^+$	0.0027 eV *4*	0	
S(n)+0.0833 *2*	1/2$^+$	0.0248 eV *21*	0	
S(n)+0.1030 *3*	1/2$^+$	0.0052 eV *6*	0	
S(n)+0.1161 *3*	1/2$^+$	0.0403 eV *40*	0	
S(n)+0.1338 *5*	1/2$^+$	0.0075 eV *33*	0	
S(n)+0.1390 *6*	1/2$^+$	0.0024 eV *12*	0	
S(n)+0.1482 *6*	1/2$^+$	0.0056 eV *27*	0	
S(n)+0.1714 *8*	1/2$^+$	0.0253 eV *45*	0	
S(n)+0.1842 *9*	1/2$^+$	0.0256 eV *45*	0	
S(n)+0.195 *1*	1/2$^+$	0.0476 eV *55*	0	
S(n)+0.209 *1*	1/2$^+$	0.081 eV *11*	0	
S(n)+0.226 *1*	1/2$^+$	0.0253 eV *50*	0	
S(n)+0.241 *3*	1/2$^+$	0.0055 eV *20*	0	
S(n)+0.248 *3*	1/2$^+$	0.0553 eV *60*	0	
S(n)+0.267 *3*	1/2$^+$	0.012 eV *4*	0	
S(n)+0.294 *3*	1/2$^+$	0.095 eV *11*	0	
S(n)+0.346 *3*	1/2$^+$	0.170 eV *71*	0	
S(n)+0.400 *5*	1/2$^+$	0.139 eV *63*	0	
S(n)+0.458 *5*	1/2$^+$	0.261 eV *98*	0	
S(n)+0.485 *6*	1/2$^+$	0.123 eV *76*	0	
S(n)+0.563 *7*	1/2$^+$	0.216 eV *74*	0	

[†] g=statistical factor.