^{232}U(n,γ),(n,n):resonances 2018MuZZ

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	B. Singh, J. K. Tuli, E. Browne	NDS 170, 499 (2020)	8-Oct-2020

2018MuZZ: evaluation of neutron resonances.
S(n)(^{233}U)=5761.7 keV *25* (2017Wa10).

^{233}U Levels

Γ_γ=40 meV assumed for all the resonances.
Values of $g\Gamma_n^0$ and few $g\Gamma_n^1$ are also given in 2018MuZZ.
Γ_{f1} and Γ_{f2} are for two fission channels required to fit the cross section data. Interpretation of positive and negative signs: pair of resonances with fission widths having the same sign interfere destructively, while pairs with opposite signs interfere constructively (2018MuZZ).

E(level)	J^π	L	Comments
S(n)-0.0006?	$1/2^+$	0	Fictitious level. Γ_{f1}=−31.25 meV.
S(n)+0.00598	$1/2^+$	0	$g\Gamma_n$=1.5 meV *2*, Γ_{f1}=25 meV.
S(n)+0.0127	$1/2^+$	0	$g\Gamma_n$=7.0 meV *5*, Γ_{f2}=264 meV.
S(n)+0.0208	$1/2^+$	0	$g\Gamma_n$=1.9 meV *2*, Γ_{f2}=−500 meV.
S(n)+0.02375	$1/2^+$	0	$g\Gamma_n$=5.5 meV *5*, Γ_{f1}=−80 meV.
S(n)+0.02475	$1/2^+$	0	$g\Gamma_n$=0.5 meV *3*, Γ_{f1}=1150 meV.
S(n)+0.0276	$1/2^+$	0	$g\Gamma_n$=2.4 meV *1*, Γ_{f1}=−150 meV.
S(n)+0.02965	$1/2^+$	0	$g\Gamma_n$=0.85 meV, Γ_{f1}=900 meV.
S(n)+0.0342	$1/2^+$	0	$g\Gamma_n$=0.59 meV, Γ_{f1}=360 meV.
S(n)+0.040	$1/2^+$	0	$g\Gamma_n$=0.25 meV, Γ_{f1}=2600 meV.
S(n)+0.04313	$1/2^+$	0	$g\Gamma_n$=7.9 meV, Γ_{f1}=−178 meV.
S(n)+0.04761	$1/2^+$	0	$g\Gamma_n$=1.06 meV, Γ_{f1}=340 meV.
S(n)+0.05248	$1/2^+$	0	$g\Gamma_n$=2 meV, Γ_{f1}=−284 meV.
S(n)+0.07235	$1/2^+$	0	$g\Gamma_n$=0.37 meV, Γ_{f1}=938 meV, Γ_{f2}=50 meV.
S(n)+0.0744	$1/2^+$	0	$g\Gamma_n$=21.3 meV, Γ_{f1}=−518 meV, Γ_{f2}=50 meV.
S(n)+0.0815	$1/2^+$	0	$g\Gamma_n$=0.027 meV, Γ_{f2}=50 meV.
S(n)+0.0821	$1/2^+$	0	$g\Gamma_n$=0.0063 meV, Γ_{f1}=−800 meV.
S(n)+0.09065	$1/2^+$	0	$g\Gamma_n$=0.014 meV, Γ_{f1}=−100 meV.
S(n)+0.09185	$1/2^+$	0	$g\Gamma_n$=0.025 meV, Γ_{f1}=−50 meV.
S(n)+0.1029	$1/2^+$	0	$g\Gamma_n$=2.4 meV, Γ_{f1}=−150 meV, Γ_{f2}=40 meV.
S(n)+0.1063	$1/2^+$	0	$g\Gamma_n$=7 meV, Γ_{f1}=−150 meV, Γ_{f2}=−15 meV.
S(n)+0.1073	$1/2^+$	0	$g\Gamma_n$=3.6 meV, Γ_{f1}=−100 meV.
S(n)+0.1128	$1/2^+$	0	$g\Gamma_n$=3.8 meV, Γ_{f1}=28 meV, Γ_{f2}=128 meV.
S(n)+0.118	$1/2^+$	0	$g\Gamma_n$=0.019 meV, Γ_{f2}=100 meV.
S(n)+0.1244	$1/2^+$	0	$g\Gamma_n$=2.6 meV, Γ_{f1}=−50 meV, Γ_{f2}=15 meV.
S(n)+0.1282	$1/2^+$	0	$g\Gamma_n$=21.5 meV, Γ_{f1}=−400 meV.
S(n)+0.1315	$1/2^+$	0	$g\Gamma_n$=1.9 meV, Γ_{f1}=−200 meV, Γ_{f2}=−50 meV.
S(n)+0.1417	$1/2^+$	0	$g\Gamma_n$=22.4 meV, Γ_{f1}=−350 meV, Γ_{f2}=50 meV.
S(n)+0.1494	$1/2^+$	0	$g\Gamma_n$=2.2 meV, Γ_{f1}=−100 meV, Γ_{f2}=−200 meV.
S(n)+0.1553	$1/2^+$	0	$g\Gamma_n$=10.6 meV, Γ_{f1}=−975 meV, Γ_{f2}=25 meV.
S(n)+0.1567	$1/2^+$	0	$g\Gamma_n$=1.75 meV, Γ_{f2}=84 meV.
S(n)+0.160	$1/2^+$	0	$g\Gamma_n$=0.0063 meV, Γ_{f2}=200 meV.
S(n)+0.1636	$1/2^+$	0	$g\Gamma_n$=0.29 meV, Γ_{f1}=750 meV, Γ_{f2}=50 meV.
S(n)+0.1656	$1/2^+$	0	$g\Gamma_n$=0.22 meV, Γ_{f1}=1900 meV, Γ_{f2}=−100 meV.
S(n)+0.168	$1/2^+$	0	$g\Gamma_n$=0.078 meV, Γ_{f1}=125 meV, Γ_{f2}=25 meV.
S(n)+0.1741	$1/2^+$	0	$g\Gamma_n$=5.5 meV, Γ_{f1}=−1470 meV, Γ_{f2}=25 meV.
S(n)+0.1856	$1/2^+$	0	$g\Gamma_n$=25.3 meV, Γ_{f1}=−950 meV, Γ_{f2}=−50 meV.
S(n)+0.188	$1/2^+$	0	$g\Gamma_n$=2.4 meV, Γ_{f1}=−25 meV, Γ_{f2}=150 meV.

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^{232}U(n,γ),(n,n):resonances 2018MuZZ (continued)

^{233}U Levels (continued)

E(level)	J^{π}	L	Comments
S(n)+0.1973	$1/2^+$	0	$g\Gamma_n$=1 meV, Γ_{f1}=300 meV, Γ_{f2}=200 meV.
S(n)+0.202	$1/2^+$	0	$g\Gamma_n$=2.03 meV, Γ_{f1}=−850 meV, Γ_{f2}=50 meV.
S(n)+0.2065	$1/2^+$	0	$g\Gamma_n$=0.42 meV, Γ_{f1}=−1450 meV, Γ_{f2}=50 meV.
S(n)+0.2105	$1/2^+$	0	$g\Gamma_n$=0.15 meV, Γ_{f1}=−1500 meV.
S(n)+0.2132	$1/2^+$	0	$g\Gamma_n$=6.9 meV, Γ_{f1}=475 meV, Γ_{f2}=25 meV.