^{189}Os(n,n),(n,γ):resonances 2018MuZZ,1976St14

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, [1] and Jun Chen[2]	NDS 169,1 (2020)	15-Oct-2020

J^π(^{189}Os g.s.)=3/2$^-$.

2018MuZZ: evaluation of thermal neutron induced σ and resonance parameter data.

1976St14: measured energies of resonances, J^π estimated from ratios of intensities of low energy γ rays. See also 1975Na02 and 1973Na11 from the same group.

The following resonances are reported (1976St14,1975Na02):

J=1 resonances (energy in eV): 6.71, 10.3, 21.9, 30.5, 41.8, 51.5, 64.0, 65.3, 76.3, 87.9, (105.3), 110.3, 118.9, 150.8, (162.0), 166.3.

J=2 resonances (energy in eV): 8.95, (13.9), 18.7, 23.1, 27.3, 28.8, 39.2, 43.4, 50.5, 54.9, 60.7, 66.0, 72.3, 75.2, 79.5, 90.6, 93.2, 102.7, 104.6, 124.4, 127.9, 130.9, 137.0, 141.0, (145.3), 159.6, 164.6, 169.2.

J=1 or 2 resonances (energy in eV): 78.0, 97.7, 112.0, 178, 183, 188, 191, 199, 202, 203, 208, 217, 220, 229, 238, 246, 254, 259, 268.

Others:

1987CaZV: E=6 eV to 500 keV. Measured 45 s-wave resonances, 16 with J=1 and 29 with J=2.

1981St16: E=2 and 24 keV; average resonance capture.

1981Br06: E=2 eV to 150 keV, 24 resonances. Measured cross sections.

1980Be36 (also 1974Be78): E=1 to 550 eV, resonance parameters for 26 resonances between 6.75 eV and 87.4 eV.

1972VeZP (also 1972VeZM and 1975Ve11): 20 resonances listed below 1 keV.

1971Ka59: E<125 eV.

1969Ve10: E=0.006 to 150 eV.

1961Ja21: 13 resonances below 61 eV.

^{190}Os Levels

Statistical factor g=(2J_f+1)/[(2j+1)*(2J_i+1)], where J_f=spin of resonant state, j=spin of neutron, J_i=spin of target=3/2$^-$.

All resonance parameters including resonance neutron energies, J^π, L, gΓ_n and Γ_γ are directly adopted from the evaluation in 2018MuZZ, unless otherwise indicated.

E(level)[†]	J^π	L	Comments
S(n)+0.00671 *1*	1$^-$	0	2gΓ_n=3.4 meV *2*, Γ_γ=80 meV *2*.
S(n)+0.00896 *2*	2$^-$	0	2gΓ_n=11.3 meV *4*, Γ_γ=73 meV *3*.
S(n)+0.01031 *3*	1$^-$	0	2gΓ_n=4.1 meV *2*, Γ_γ=83 meV *2*.
S(n)+0.0187 *1*	2$^-$	0	2gΓ_n=5.5 meV *3*, Γ_γ=90 meV *3*.
S(n)+0.02214 *3*	1$^-$	0	2gΓ_n=9.46 meV *50*, Γ_γ=93 meV *4*.
S(n)+0.02296 *3*	2$^-$	0	2gΓ_n=0.24 meV *3*, Γ_γ=96 meV *16*.
S(n)+0.02750 *4*	2$^-$	0	2gΓ_n=4.8 meV *3*, Γ_γ=89 meV *8*.
S(n)+0.02850 *5*	2$^-$	0	2gΓ_n=9.5 meV *5*, Γ_γ=83 meV *7*.
S(n)+0.03048 *6*	1$^-$	0	2gΓ_n=0.76 meV *4*, Γ_γ=90 meV *10*.
S(n)+0.03917 *6*	2$^-$	0	2gΓ_n=3.2 meV *4*.
S(n)+0.04175 *7*	1$^-$	0	2gΓ_n=0.82 meV *4*, Γ_γ=104 meV *12*.
S(n)+0.04340 *7*	2$^-$	0	2gΓ_n=2.23 meV *7*.
S(n)+0.05050 *7*	2$^-$	0	2gΓ_n=26 meV *2*, Γ_γ=100 meV *6*.
S(n)+0.05145 *7*	1$^-$	0	2gΓ_n=1.3 meV *2*, Γ_γ=102 meV *19*.
S(n)+0.05490 *8*	2$^-$	0	2gΓ_n=24.8 meV *8*, Γ_γ=91 meV *8*.
S(n)+0.06070 *1*	2$^-$	0	2gΓ_n=16.2 meV *8*, Γ_γ=101 meV *10*.
S(n)+0.0638 *1*	1$^-$	0	2gΓ_n=11.5 meV *10*.
S(n)+0.0650 *1*	1$^-$	0	2gΓ_n=13 meV *6*.
S(n)+0.0658 *1*	2$^-$	0	2gΓ_n=6 meV *3*.
S(n)+0.0722 *1*	2$^-$	0	2gΓ_n=3.2 meV *3*.
S(n)+0.0752 *1*	2$^-$	0	2gΓ_n=72 meV *24*.
S(n)+0.0763 *1*	1$^-$	0	
S(n)+0.0780 *1*			

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^{189}Os(n,n),(n,γ):resonances 2018MuZZ,1976St14 (continued)

^{190}Os Levels (continued)

E(level)[†]	J$^{\pi}$	Γ (eV)	L	Comments
S(n)+0.0795 *1*	2			
S(n)+0.0879 *1*	1			
S(n)+0.0906 *1*	2			
S(n)+0.0932 *1*	2			
S(n)+0.0977 *2*				
S(n)+0.1025 *2*	2			
S(n)+0.1044 *2*	2			
S(n)+0.1051 *2*	(1)			
S(n)+0.1100 *2*	1			
S(n)+0.1120 *2*				
S(n)+0.1186 *2*	1			
S(n)+0.1239 *2*	2			
S(n)+0.1275 *2*	2			
S(n)+0.1304 *2*	2			
S(n)+0.1367 *2*	2			
S(n)+0.1404 *2*	2			
S(n)+0.1456 *3*	(2)			
S(n)+0.1500 *3*	1			
S(n)+0.1592 *3*	2			
S(n)+0.1614 *3*	(1)			
S(n)+0.1645 *3*	2			
S(n)+0.1660 *3*				
S(n)+0.1665 *3*	1			
S(n)+0.1685 *3*	2			
S(n)+0.1770 *4*				
S(n)+0.1830 *4*				
S(n)+0.1868 *4*				
S(n)+0.1974 *4*				
S(n)+0.20236 *40*	1$^-$,2$^-$		0	2gΓ_n=75.8 meV *10*, g$\Gamma_n\Gamma_\gamma/\Gamma$=21.6 meV *2*.
S(n)+0.20417 *40*	1$^-$,2$^-$		0	2gΓ_n=54.0 meV *6*, g$\Gamma_n\Gamma_\gamma/\Gamma$=17.5 meV *1*.
S(n)+0.2055 *4*	1$^-$,2$^-$		0	2gΓ_n=0.4 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=0.2 meV *1*.
S(n)+0.20819 *40*	1$^-$,2$^-$		0	2gΓ_n=44.0 meV *6*, g$\Gamma_n\Gamma_\gamma/\Gamma$=15.3 meV *1*.
S(n)+0.2095 *4*	1$^-$,2$^-$		0	2gΓ_n=0.56 meV *20*, g$\Gamma_n\Gamma_\gamma/\Gamma$=0.3 meV *1*.
S(n)+0.21662 *40*	1$^-$,2$^-$		0	2gΓ_n=17.0 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=7.3 meV *1*.
S(n)+0.21800 *40*	1$^-$,2$^-$		0	2gΓ_n=1.4 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=0.7 meV *1*.
S(n)+0.21871 *40*	1$^-$,2$^-$		0	2gΓ_n=18.0 meV *4*, g$\Gamma_n\Gamma_\gamma/\Gamma$=6.9 meV *1*.
S(n)+0.21939 *40*	1$^-$,2$^-$		0	2gΓ_n=15.6 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=6.8 meV *1*.
S(n)+0.2200 *4*	1$^-$,2$^-$		0	2gΓ_n=4.0 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=1.9 meV *1*.
S(n)+0.22101 *40*	1$^-$,2$^-$		0	2gΓ_n=1.2 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=0.6 meV *1*.
S(n)+0.22818 *40*	1$^-$,2$^-$		0	2gΓ_n=1.1 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=0.6 meV *1*.
S(n)+0.22922 *40*	1$^-$,2$^-$		0	2gΓ_n=35.4 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=13.0 meV *1*.
S(n)+0.23006 *40*	1$^-$,2$^-$		0	2gΓ_n=6.8 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=3.0 meV *1*.
S(n)+0.23227 *40*	1$^-$,2$^-$		0	2gΓ_n=1.4 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=0.7 meV *1*.
S(n)+0.23929 *40*	1$^-$,2$^-$		0	2gΓ_n=34.8 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=12.9 meV *1*.
S(n)+0.24637 *40*	1$^-$,2$^-$		0	2gΓ_n=4.9 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=2.3 meV *1*.
S(n)+0.24744 *40*	1$^-$,2$^-$		0	2gΓ_n=1.8 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=0.9 meV *1*.
S(n)+0.25425 *50*	1$^-$,2$^-$		0	2gΓ_n=3.1 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=1.5 meV *1*.
S(n)+0.25615 *50*	1$^-$,2$^-$		0	2gΓ_n=2.7 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=1.3 meV *1*.
S(n)+0.26021 *50*	1$^-$,2$^-$		0	2gΓ_n=8.0 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=3.7 meV *1*.
S(n)+0.26897 *50*	(2)$^-$	0.0689 eV *12*	0	2gΓ_n=10.4 meV, g$\Gamma_n\Gamma_\gamma/\Gamma$=23.6 meV *2*.
S(n)+0.2718 *5*	(2)$^-$	0.0878 eV *10*	0	2gΓ_n=100 meV, g$\Gamma_n\Gamma_\gamma/\Gamma$=26.2 meV *2*.
S(n)+0.2750 *5*	1$^-$,2$^-$		0	2gΓ_n=7.2 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=3.4 meV *1*.
S(n)+0.27606 *50*	(1)$^-$	0.1063 eV *48*	0	2gΓ_n=75 meV, g$\Gamma_n\Gamma_\gamma/\Gamma$=19.3 meV *2*.
S(n)+0.27773 *40*	1$^-$,2$^-$		0	2gΓ_n=15.0 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=5.9 meV *1*.
S(n)+0.2902 *6*	1$^-$,2$^-$		0	2gΓ_n=20.8 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=8.6 meV *1*.
S(n)+0.29759 *60*	1$^-$,2$^-$		0	2gΓ_n=33.8 meV *2*, g$\Gamma_n\Gamma_\gamma/\Gamma$=12.6 meV *1*.

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^{189}Os(n,n),(n,γ):resonances 2018MuZZ,1976St14 (continued)

^{190}Os Levels (continued)

E(level)†	Jπ	Γ (eV)	L	Comments
S(n)+0.3009 *6*	(1)⁻	0.0749 eV *75*	0	2gΓn=138 meV, gΓnΓγ/Γ=27.9 meV *3*.
S(n)+0.30327 *60*	1⁻,2⁻		0	2gΓn=44.0 meV *4*, gΓnΓγ/Γ=15.3 meV *1*.
S(n)+0.30508 *60*	1⁻,2⁻		0	2gΓn=10.5 meV *2*, gΓnΓγ/Γ=4.7 meV *1*.
S(n)+0.31031 *60*	1⁻,2⁻		0	2gΓn=27.2 meV *2*, gΓnΓγ/Γ=10.1 meV *1*.
S(n)+0.31483 *60*	1⁻,2⁻		0	2gΓn=34.0 meV *2*, gΓnΓγ/Γ=12.7 meV *1*.
S(n)+0.3170 *6*	1⁻,2⁻		0	2gΓn=2.3 meV *2*, gΓnΓγ/Γ=1.1 meV *1*.
S(n)+0.31809 *40*	1⁻,2⁻		0	2gΓn=36.6 meV *4*, gΓnΓγ/Γ=13.4 meV *1*.
S(n)+0.32213 *60*	1⁻,2⁻		0	2gΓn=26.0 meV *2*, gΓnΓγ/Γ=10.3 meV *1*.
S(n)+0.32636 *60*	1⁻,2⁻		0	2gΓn=24.4 meV *2*, gΓnΓγ/Γ=9.7 meV *1*.
S(n)+0.32756 *60*	1⁻,2⁻		0	2gΓn=13.8 meV *2*, gΓnΓγ/Γ=6.0 meV *1*.
S(n)+0.3289 *4*	1⁻,2⁻		0	2gΓn=16.0 meV *2*, gΓnΓγ/Γ=6.3 meV *1*.
S(n)+0.33081 *40*	1⁻,2⁻		0	2gΓn=1.4 meV *2*, gΓnΓγ/Γ=0.7 meV *1*.
S(n)+0.33636 *60*	1⁻,2⁻		0	2gΓn=3.8 meV *2*, gΓnΓγ/Γ=1.8 meV *1*.
S(n)+0.34163 *60*	(1)⁻	0.0873 eV *22*	0	2gΓn=60 meV *6*, gΓnΓγ/Γ=15.7 meV *2*.
S(n)+0.34535 *70*	1⁻,2⁻		0	2gΓn=2.4 meV *2*, gΓnΓγ/Γ=1.1 meV *1*.
S(n)+0.34627 *40*	1⁻,2⁻		0	2gΓn=26.6 meV *2*, gΓnΓγ/Γ=10.5 meV *1*.
S(n)+0.35008 *70*	1⁻,2⁻		0	2gΓn=23.0 meV *6*, gΓnΓγ/Γ=8.3 meV *2*.
S(n)+0.35058 *70*	1⁻,2⁻		0	2gΓn=16.7 meV *8*, gΓnΓγ/Γ=7.2 meV *3*.
S(n)+0.35115 *70*	1⁻,2⁻		0	2gΓn=21.4 meV *4*, gΓnΓγ/Γ=8.8 meV *1*.
S(n)+0.35884 *70*	1⁻,2⁻		0	2gΓn=25.4 meV *2*, gΓnΓγ/Γ=10.12 meV *10*.
S(n)+0.36192 *70*	1⁻,2⁻		0	2gΓn=84.4 meV *8*, gΓnΓγ/Γ=22.9 meV *1*.
S(n)+0.36571 *70*	1⁻,2⁻		0	2gΓn=49.6 meV *4*, gΓnΓγ/Γ=16.6 meV *1*.
S(n)+0.36783 *70*	1⁻,2⁻		0	2gΓn=42.2 meV *6*, gΓnΓγ/Γ=12.4 meV *1*.
S(n)+0.38467 *70*	1⁻,2⁻		0	2gΓn=7.6 meV *2*, gΓnΓγ/Γ=3.5 meV *1*.
S(n)+0.38609 *70*	1⁻,2⁻		0	2gΓn=1.6 meV *2*, gΓnΓγ/Γ=0.8 meV *1*.
S(n)+0.38841 *70*	1⁻,2⁻		0	2gΓn=0.9 meV *2*, gΓnΓγ/Γ=0.4 meV *1*.
S(n)+0.39207 *70*	1⁻,2⁻		0	2gΓn=2.1 meV *2*, gΓnΓγ/Γ=1.0 meV *1*.
S(n)+0.39689 *80*	1⁻,2⁻		0	2gΓn=6.7 meV *2*, gΓnΓγ/Γ=3.1 meV *1*.
S(n)+0.40013 *70*	1⁻,2⁻		0	2gΓn=6.4 meV *2*, gΓnΓγ/Γ=3.0 meV *1*.
S(n)+0.4025 *8*	(2)⁻	0.0798 eV *15*	0	2gΓn=70.2 meV *2*, gΓnΓγ/Γ=20.6 meV *1*.
S(n)+0.40626 *80*	1⁻,2⁻		0	2gΓn=24.0 meV *4*, gΓnΓγ/Γ=8.6 meV *1*.
S(n)+0.41035 *80*	(2)⁻	0.0798 eV *16*	0	2gΓn=61.4 meV *6*, gΓnΓγ/Γ=19.0 meV *1*.
S(n)+0.41329 *80*	1⁻,2⁻		0	2gΓn=35.0 meV *4*, gΓnΓγ/Γ=11.1 meV *1*.
S(n)+0.4170 *8*	1⁻,2⁻		0	2gΓn=0.4 meV *2*, gΓnΓγ/Γ=0.2 meV *1*.
S(n)+0.41776 *80*	1⁻,2⁻		0	2gΓn=33.8 meV *4*, gΓnΓγ/Γ=12.6 meV *1*.
S(n)+0.4185 *8*	1⁻,2⁻		0	2gΓn=2.0 meV *2*, gΓnΓγ/Γ=1.0 meV *1*.
S(n)+0.42371 *80*	1⁻,2⁻		0	2gΓn=45.6 meV *4*, gΓnΓγ/Γ=12.9 meV *1*.
S(n)+0.43041 *80*	1⁻,2⁻		0	2gΓn=95.4 meV *12*, gΓnΓγ/Γ=24.4 meV *2*.
S(n)+0.43146 *80*	1⁻,2⁻		0	2gΓn=28.6 meV *6*, gΓnΓγ/Γ=11.1 meV *2*.
S(n)+0.4369 *8*	1⁻,2⁻		0	2gΓn=165.00 meV *32*, gΓnΓγ/Γ=31.1 meV *2*.
S(n)+0.43888 *80*	(2)⁻	0.0809 eV *81*	0	2gΓn=162 meV *16*, gΓnΓγ/Γ=31.1 meV *7*.
S(n)+0.44071 *80*	(1)⁻	0.123 eV *12*	0	2gΓn=142 meV *14*, gΓnΓγ/Γ=28.0 meV *6*.
S(n)+0.44308 *80*	1⁻,2⁻		0	2gΓn=34.8 meV *6*, gΓnΓγ/Γ=12.9 meV *2*.
S(n)+0.44917 *90*	1⁻,2⁻		0	2gΓn=12.4 meV *4*, gΓnΓγ/Γ=5.5 meV *2*.
S(n)+0.4498 *8*	1⁻,2⁻		0	2gΓn=7.6 meV *2*, gΓnΓγ/Γ=3.5 meV *1*.
S(n)+0.45469 *90*	(1)⁻	0.0940 eV *19*	0	2gΓn=260 meV *27*, gΓnΓγ/Γ=40.5 meV *6*.
S(n)+0.45969 *90*	1⁻,2⁻		0	2gΓn=34.8 meV *4*, gΓnΓγ/Γ=12.9 meV *1*.
S(n)+0.4653 *9*	(1)⁻	0.0639 eV *16*	0	2gΓn=132 meV *13*, gΓnΓγ/Γ=24.9 meV *1*.
S(n)+0.4709 *9*	1⁻,2⁻		0	2gΓn=20.2 meV *2*, gΓnΓγ/Γ=8.4 meV *1*.
S(n)+0.47215 *90*	1⁻,2⁻	0.068 eV *10*	0	2gΓn=18.0 meV *2*, gΓnΓγ/Γ=6.7 meV *1*.
S(n)+0.47577 *80*	1⁻,2⁻		0	2gΓn=12.7 meV *2*, gΓnΓγ/Γ=5.6 meV *1*.
S(n)+0.47862 *80*	1⁻,2⁻		0	2gΓn=0.54 meV *20*, gΓnΓγ/Γ=0.3 meV *1*.
S(n)+0.48018 *90*	1⁻,2⁻		0	2gΓn=12.8 meV *2*, gΓnΓγ/Γ=5.7 meV *1*.
S(n)+0.48214 *90*	(2)⁻	0.068 eV *10*	0	2gΓn=90.8 meV *8*, gΓnΓγ/Γ=21.9 meV *1*.
S(n)+0.4830 *9*	1⁻,2⁻		0	2gΓn=0.4 meV *2*, gΓnΓγ/Γ=0.2 meV *1*.

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^{189}Os(n,n),(n,γ):resonances 2018MuZZ,1976St14 (continued)

^{190}Os Levels (continued)

E(level)[†]	J^π	Γ (eV)	L	Comments
S(n)+0.48697 *90*	$1^-,2^-$		0	$2g\Gamma_n$=42.0 meV *4*, $g\Gamma_n\Gamma_\gamma/\Gamma$=14.8 meV *1*.
S(n)+0.49027 *90*	$(2)^-$	0.0542 eV *54*	0	$2g\Gamma_n$=54.0 meV *54*, $g\Gamma_n\Gamma_\gamma/\Gamma$=15.6 meV *2*.
S(n)+0.49295 *90*	$1^-,2^-$		0	$2g\Gamma_n$=12.1 meV *2*, $g\Gamma_n\Gamma_\gamma/\Gamma$=5.4 meV *1*.
S(n)+0.4970 *10*	$(2)^-$	0.0932 eV *93*	0	$2g\Gamma_n$=226 meV *23*, $g\Gamma_n\Gamma_\gamma/\Gamma$=38.4 meV *4*.
S(n)+0.4989 *10*	$1^-,2^-$		0	$2g\Gamma_n$=7.9 meV *2*, $g\Gamma_n\Gamma_\gamma/\Gamma$=35.0 meV *1*.
S(n)+0.5051 *10*				
S(n)+0.5106 *10*				
S(n)+0.5151 *10*				
S(n)+0.5234 *10*				
S(n)+0.5263 *10*				
S(n)+0.5344 *10*				
S(n)+0.5411 *10*				
S(n)+0.5434 *10*				
S(n)+0.5647 *10*				
S(n)+0.5671 *10*				
S(n)+0.5728 *10*				
S(n)+0.5804 *11*				
S(n)+0.5837 *11*				
S(n)+0.5872 *11*				
S(n)+0.5994 *11*				
S(n)+0.6047 *11*				
S(n)+0.6092 *11*				
S(n)+0.6202 *11*				
S(n)+0.6272 *11*				
S(n)+0.6315 *11*				
S(n)+0.6344 *11*				
S(n)+0.6422 *11*				
S(n)+0.6472 *11*				
S(n)+0.6512 *11*				
S(n)+0.6603 *11*				
S(n)+0.6633 *11*				
S(n)+0.6720 *11*				
S(n)+0.6790 *11*				
S(n)+0.6890 *11*				
S(n)+0.7080 *11*				
S(n)+0.7110 *11*				
S(n)+0.7180 *11*				
S(n)+0.7260 *11*				
S(n)+0.7310 *15*				
S(n)+0.7430 *15*				
S(n)+0.7540 *15*				
S(n)+0.7800 *15*				
S(n)+0.7890 *15*				
S(n)+0.7970 *15*				
S(n)+0.801 *2*				
S(n)+0.812 *2*				
S(n)+0.826 *2*				
S(n)+0.838 *2*				
S(n)+0.848 *2*				
S(n)+0.853 *2*				
S(n)+0.860 *2*				
S(n)+0.870 *2*				
S(n)+0.874 *2*				
S(n)+0.884 *2*				
S(n)+0.888 *2*				
S(n)+0.900 *2*				
S(n)+0.913 *2*				

Continued on next page (footnotes at end of table)

^{189}Os(n,n),(n,γ):resonances 2018MuZZ,1976St14 (continued)

^{190}Os Levels (continued)

E(level)†	E(level)†	E(level)†	E(level)†
S(n)+0.920 *2*	S(n)+0.945 *2*	S(n)+0.972 *2*	S(n)+0.990 *2*
S(n)+0.935 *2*	S(n)+0.956 *2*	S(n)+0.981 *2*	S(n)+0.994 *2*

† Quoted values are given in the form of S(n)+E(n)(lab), with E(n)(lab) from 2018MuZZ and S(n)=7792.34 *19* (2017Wa10) for ^{190}Os. For resonance level energies, use E(level)=S(n)+E(n)$_{c.m.}$, with E(n)(c.m.)=E(n)(lab)*0.994689.