

$^{82}\text{Se}(\text{n},\text{n}'\gamma)$ 1998Ko52

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. K. Tuli, E. Browne	NDS 157, 260 (2019)		1-Mar-2019

E=fast reactor neutron spectrum. Measured γ , $\gamma(\theta)$, $\gamma(t)$, anti-Compton Ge(Li) detectors, FWHM=3.5 keV At 1.3 MeV, $T_{1/2}$ from DSA.

 ^{82}Se Levels

J^π derived from variation in relative level populations with spin using Hauser-Feshbach calculations.

E(level) [‡]	J^π	$T_{1/2}$ [†]	E(level) [‡]	J^π	$T_{1/2}$ [†]	E(level) [‡]	J^π	$T_{1/2}$ [†]
0.0	0 ⁺		3103.3 4	(4 ⁺)		3757.0 5	2 ⁺	
654.72 16	2 ⁺		3238.78 22	(4 ⁺)	0.30 ps +12-8	3831.0 6	0 ⁺	
1410.27 18	0 ⁺		3378.45 25	(3 ⁻)	0.12 ps 4	3865.06 25	(3 ⁻)	
1731.51 10	2 ⁺	0.95 ps 25	3445.9 4	0 ⁺		3917.9 6	2 ⁺	
1735.09 25	4 ⁺		3454.17 21	(5 ⁻)		4036.2 3	2 ⁺	0.17 ps +10-5
2550.29 17	(3,4 ⁺)		3591.68 20	2 ⁺	0.28 ps +12-8	4094.3 3	(4,5 ⁻)	
2625.75 19	(0 ⁺)	0.04 ps 1	3631.26 22	(0 ⁺)		4391.3 4	2 ⁺	0.13 ps 3
2893.68 19	(5 ⁻)		3664.0 4	2 ⁺				
3009.16 19	3 ⁻	0.020 ps 5	3688.9 6	4 ⁺				

[†] It is assumed that the life-time given by symbol τ is in fact $T_{1/2}$. The authors compare favorably $\tau(1731 \text{ level})=0.95 \text{ ps } 25$ with earlier $T_{1/2}$ value of $0.94 \text{ ps } 11$.

[‡] From least-squares fit to $E\gamma$.

 $\gamma(^{82}\text{Se})$

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
343.3 1	1.1 2	2893.68	(5 ⁻)	2550.29	(3,4 ⁺)
560.5 1	0.25 5	3454.17	(5 ⁻)	2893.68	(5 ⁻)
654.7 5	100 5	654.72	2 ⁺	0.0	0 ⁺
755.6 1	7.9 5	1410.27	0 ⁺	654.72	2 ⁺
815.1 2	1.2 3	2550.29	(3,4 ⁺)	1735.09	4 ⁺
818.6 2	2.1 3	2550.29	(3,4 ⁺)	1731.51	2 ⁺
903.7 3	0.05 1	3454.17	(5 ⁻)	2550.29	(3,4 ⁺)
970.4 3	0.12 2	3865.06	(3 ⁻)	2893.68	(5 ⁻)
1076	4.0 8	1731.51	2 ⁺	654.72	2 ⁺
1079.8 5	10.7 5	1735.09	4 ⁺	654.72	2 ⁺
^x 1112 1	0.4 1				
1113.7 3	0.6 1	3664.0	2 ⁺	2550.29	(3,4 ⁺)
^x 1116 1	0.3 1				
1368.2 2	1.2 2	3103.3	(4 ⁺)	1735.09	4 ⁺
1410.4 2	0.45 5	4036.2	2 ⁺	2625.75	(0 ⁺)
1507.3 3	0.4 1	3238.78	(4 ⁺)	1731.51	2 ⁺
1544.0 2	0.15 3	4094.3	(4,5 ⁻)	2550.29	(3,4 ⁺)
^x 1551.3 3	0.25 5				
1646.9 3	0.5 1	3378.45	(3 ⁻)	1731.51	2 ⁺
1714.4 3	0.4 1	3445.9	0 ⁺	1731.51	2 ⁺
1731.5 1	15.2 8	1731.51	2 ⁺	0.0	0 ⁺
1859.9 2	0.6 1	3591.68	2 ⁺	1731.51	2 ⁺
1895.5 1	2.3 2	2550.29	(3,4 ⁺)	654.72	2 ⁺
1899.7 3	0.10 2	3631.26	(0 ⁺)	1731.51	2 ⁺

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$^{82}\text{Se}(\text{n},\text{n}'\gamma)$ **1998Ko52 (continued)** $\gamma(^{82}\text{Se})$ (continued)

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
1971.0 1	1.6 2	2625.75	(0 ⁺)	654.72	2 ⁺	2981.0 3	0.3 1	4391.3	2 ⁺	1410.27	0 ⁺
^x 1982.0 1	0.40 5					3009 1	0.20 5	3664.0	2 ⁺	654.72	2 ⁺
2134.5 3	0.10 1	3865.06	(3 ⁻)	1731.51	2 ⁺	^x 3011.1 5	0.20 4				
2182.0 3	0.10 1	3591.68	2 ⁺	1410.27	0 ⁺	3034.1 5	0.45 5	3688.9	4 ⁺	654.72	2 ⁺
2346 1	0.15 5	3757.0	2 ⁺	1410.27	0 ⁺	3102.4 5	0.47 5	3757.0	2 ⁺	654.72	2 ⁺
2354.4 1	1.7 2	3009.16	3 ⁻	654.72	2 ⁺	3176.2 5	0.15 5	3831.0	0 ⁺	654.72	2 ⁺
^x 2446 1	0.20 3					^x 3225.5 3	0.27 3				
2584.0 2	0.53 5	3238.78	(4 ⁺)	654.72	2 ⁺	3263.1 5	0.25 5	3917.9	2 ⁺	654.72	2 ⁺
2723.7 3	0.52 5	3378.45	(3 ⁻)	654.72	2 ⁺	3591 1	0.07 3	3591.68	2 ⁺	0.0	0 ⁺
2976.5 2	0.15 3	3631.26	(0 ⁺)	654.72	2 ⁺						

^x γ ray not placed in level scheme.

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Level Scheme

Intensities: Type not specified

Legend

- $\longrightarrow$ $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
 $\longrightarrow$ $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
 $\longrightarrow$ $I_\gamma > 10\% \times I_\gamma^{\text{max}}$

