

<sup>82</sup>Y β<sup>+</sup> decay 1998Oi02,1982De36

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

Parent: <sup>82</sup>Y: E=0.0; J<sup>π</sup>=1<sup>+</sup>; T<sub>1/2</sub>=8.3 s 2; Q(β<sup>+</sup>)=7946 8; %β<sup>+</sup> decay=100.0

<sup>82</sup>Y-T<sub>1/2</sub>: From 1998Oi02. Others: 9.5 s 4 (1981Li12), 9.5 s 5 (1982De36).

<sup>82</sup>Y-Q(β<sup>+</sup>): From 2017Wa10.

1998Oi02: produced by 165 MeV <sup>32</sup>Si on Ni. Measured β+γ, β+γ(t).

1982De36: produced from <sup>54</sup>Fe(<sup>32</sup>S,X). Time-of-flight mass separator. Measured Eγ, Iγ, Eβ, βγ, γγ.

1981Li12: from <sup>60</sup>Ni(Mg,pn), E=75 MeV to 105 MeV. Measured Eγ, Iγ, βγ, γγ.

Other: 1981HaYZ.

<sup>82</sup>Sr Levels

E(level)	J <sup>π</sup>	T <sub>1/2</sub> <sup>†</sup>	Comments
0.0	0 <sup>+</sup>	25.35 d 3	
573.5 3	2 <sup>+</sup>	8.9 ps 4	
1175.6 4	2 <sup>+</sup>	7.5 ps 24	
1310.8 4	0 <sup>+</sup>	<3.5 ns	T <sub>1/2</sub> : From γγ and βγ (1982De36).
1864.5 5	2 <sup>+</sup>		

<sup>†</sup> From Adopted Levels; T<sub>1/2</sub>(1311 level) from γγ and βγ (1982De36).

ε,β<sup>+</sup> radiations

With Q(ε)>7 MeV the decay scheme is likely To Be incomplete.

E(decay)	E(level)	Iβ <sup>+</sup> ‡	Iε‡	Log ft	I(ε+β <sup>+</sup> ) <sup>†‡</sup>	Comments
(6082 8)	1864.5	0.7 2	0.010 3	6.5 1	0.7 2	av Eβ=2342.3 39; εK=0.01200 6; εL=0.001400 7; εM+=0.0003050 1
(6635 8)	1310.8	2.1 6	0.021 6	6.2 1	2.1 6	av Eβ=2611.1 39; εK=0.00886 4; εL=0.001033 5; εM+=0.0002251 1
(6770 8)	1175.6	1.2 4	0.011 4	6.5 2	1.2 4	av Eβ=2676.9 39; εK=0.00827 4; εL=0.000964 4; εM+=0.0002099 9
(7373 8)	573.5	21 6	0.15 4	5.5 1	21 6	av Eβ=2970.6 40; εK=0.006175 23; εL=0.000720 3; εM+=0.0001568 6
(7946 8)	0.0	75 7	0.41 4	5.1 1	75 7	av Eβ=3251.2 40; εK=0.004793 17; εL=0.0005585 1; εM+=0.0001217 5

<sup>†</sup> From intensity imbalance for each level.

<sup>‡</sup> Absolute intensity per 100 decays.

γ(<sup>82</sup>Sr)

Iγ normalization: from 1982De36 by measurement of the number of atoms with the time-of-flight spectrometer. Ti(g.s.)=75 25 (1998Oi02).

<sup>82</sup>Y β<sup>+</sup> decay **1998Oi02,1982De36** (continued)

γ(<sup>82</sup>Sr) (continued)

$E_\gamma^\dagger$	$I_\gamma^{\ddagger}$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Comments
573.4 3	100 7	573.5	2 <sup>+</sup>	0.0	0 <sup>+</sup>	
601.9 3	4.4 4	1175.6	2 <sup>+</sup>	573.5	2 <sup>+</sup>	$I_\gamma$ : 13 1 (1982De36), 41 (1981Li12).
688.9 4	0.5 3	1864.5	2 <sup>+</sup>	1175.6	2 <sup>+</sup>	
737.3 3	8.5 7	1310.8	0 <sup>+</sup>	573.5	2 <sup>+</sup>	$I_\gamma$ : 9 1 (1982De36), 9 (1981Li12).
1175.9 6	0.9 3	1175.6	2 <sup>+</sup>	0.0	0 <sup>+</sup>	$I_\gamma$ : ≈2 (1982De36), 4 (1981Li12).
1291.0 6	1.6 3	1864.5	2 <sup>+</sup>	573.5	2 <sup>+</sup>	
1865.3 15	0.5 3	1864.5	2 <sup>+</sup>	0.0	0 <sup>+</sup>	

† From 1998Oi02.

‡ For absolute intensity per 100 decays, multiply by 0.25 6.

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Decay Scheme

Intensities:  $I_{(\gamma+ce)}$  per 100 parent decays

Legend

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

