

$^{86}\text{Kr}(n,n'\gamma)$ 2013Fo13

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Alexandru Negret, Balraj Singh		NDS 124, 1 (2015)	30-Nov-2014

2013Fo13: A neutron beam with energy ranging from 1-20 MeV was produced in a W spallation target driven by a E(p)=800 MeV beam at the LANSCE WNR facility of LANL. The neutron beam impinged on a 0.525 mm thick aluminum target cylinder containing ^{86}Kr gas at P=450 kPa. The cylinder had a length of 6.261 cm and a radius of 1.7975 cm. Measured $E\gamma$, $I\gamma$, σ , $\gamma\gamma$ -coin using the GEANIE spectrometer consisting of 10 Compton-suppressed planar Ge detectors, and 10 Compton-suppressed coaxial Ge detectors. Deduced levels, J, π . Comparison with shell-model calculations.

 ^{86}Kr Levels

<u>E(level)[†]</u>	<u>J^{π}</u>	<u>E(level)[†]</u>	<u>J^{π}</u>	<u>E(level)[†]</u>	<u>J^{π}</u>	<u>E(level)[†]</u>	<u>J^{π}</u>
0.0	0 ⁺	2726.6 5	0 ⁺	3010.1 4	(1,2) ⁺	3583.4 6	
1564.6 4	2 ⁺	2850.3 5	(2,3) ⁺	3099.3 6	3 ⁻	3816.2 8	(5 ⁺ ,6 ⁺)
2249.9 6	4 ⁺	2916.6 6	(3,4) ⁺	3328.1 6	(⁺)	3935.0 8	(5)
2349.8 4	2 ⁺	2926.2 4	(2) ⁺	3541.4 5	0 ⁺	4064.0 8	(6 ⁺)

[†] From least-squares fit to $E\gamma$ data, assuming 0.5 keV uncertainty for each γ ray.

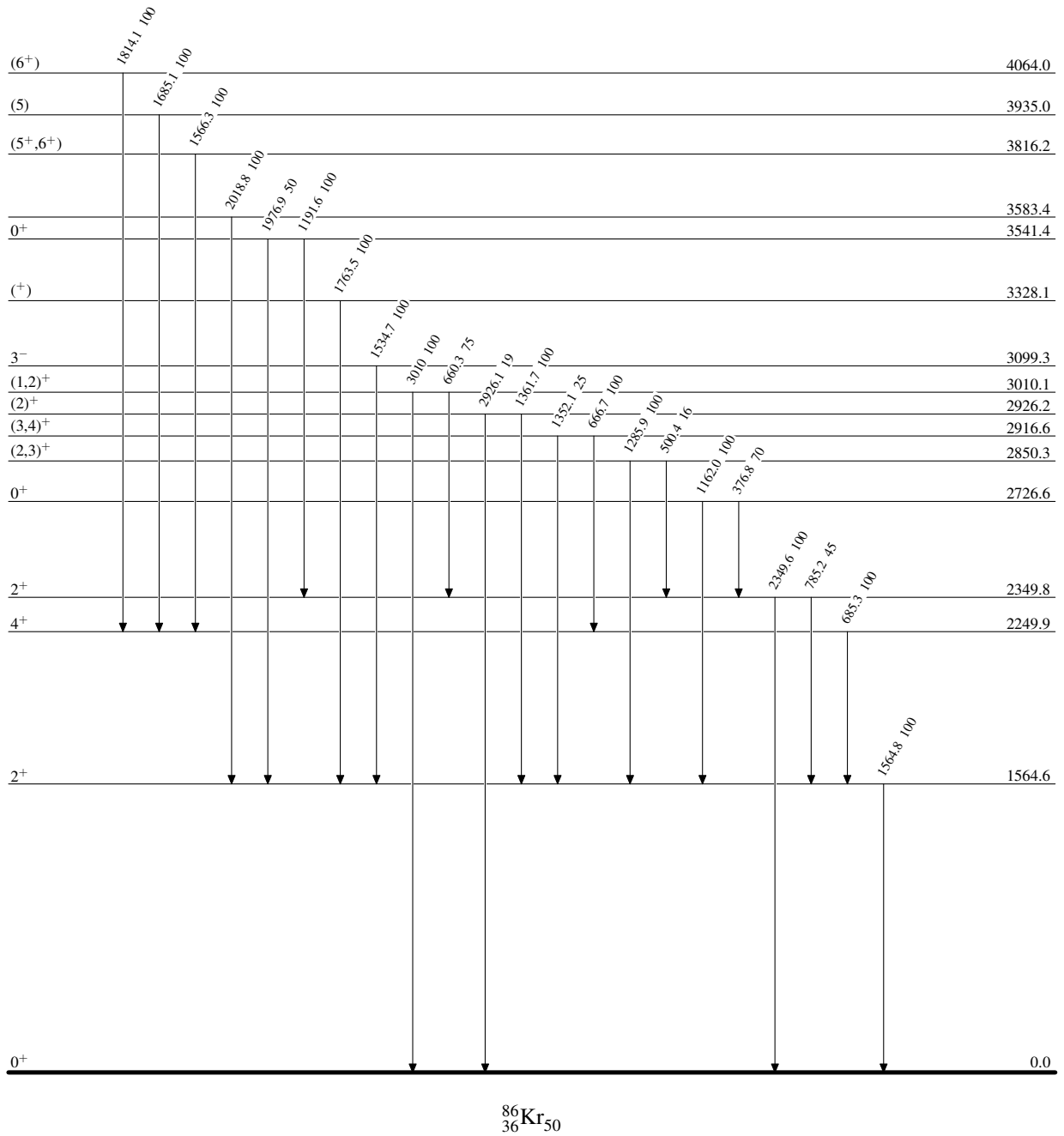
 $\gamma(^{86}\text{Kr})$

<u>E_i(level)</u>	<u>J_i^{π}</u>	<u>E_{γ}</u>	<u>I_{γ}</u>	<u>E_f</u>	<u>J_f^{π}</u>	<u>E_i(level)</u>	<u>J_i^{π}</u>	<u>E_{γ}</u>	<u>I_{γ}</u>	<u>E_f</u>	<u>J_f^{π}</u>
1564.6	2 ⁺	1564.8	100	0.0	0 ⁺	2926.2	(2) ⁺	2926.1	19 4	0.0	0 ⁺
2249.9	4 ⁺	685.3	100	1564.6	2 ⁺	3010.1	(1,2) ⁺	660.3	75 6	2349.8	2 ⁺
2349.8	2 ⁺	785.2	45 3	1564.6	2 ⁺			3010	100	0.0	0 ⁺
		2349.6	100	0.0	0 ⁺	3099.3	3 ⁻	1534.7	100	1564.6	2 ⁺
2726.6	0 ⁺	376.8	70 6	2349.8	2 ⁺	3328.1	(⁺)	1763.5	100	1564.6	2 ⁺
		1162.0	100	1564.6	2 ⁺	3541.4	0 ⁺	1191.6	100	2349.8	2 ⁺
2850.3	(2,3) ⁺	500.4	16 11	2349.8	2 ⁺			1976.9	50 8	1564.6	2 ⁺
		1285.9	100 10	1564.6	2 ⁺	3583.4		2018.8	100	1564.6	2 ⁺
2916.6	(3,4) ⁺	666.7	100	2249.9	4 ⁺	3816.2	(5 ⁺ ,6 ⁺)	1566.3	100	2249.9	4 ⁺
		1352.1	25 4	1564.6	2 ⁺	3935.0	(5)	1685.1	100	2249.9	4 ⁺
2926.2	(2) ⁺	1361.7	100	1564.6	2 ⁺	4064.0	(6 ⁺)	1814.1	100	2249.9	4 ⁺

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Level Scheme

Intensities: Relative photon branching from each level

 $^{86}_{36}\text{Kr}_{50}$