

$^{29}\text{Mg}$   $\beta^-$  decay 1984Gu19,1973Go34,1979De02

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia		NDS 113, 909 (2012)	1-Jan-2012

Parent:  $^{29}\text{Mg}$ :  $E=0$ ;  $J^\pi=3/2^+$ ;  $T_{1/2}=1.30$  s 12;  $Q(\beta^-)=7613$  11;  $\% \beta^-$  decay=100.0

Other: 1971Jo03.

1984Gu19:  $^{29}\text{Mg}$  was produced in the fragmentation of iridium target by 10 GeV protons from the CERN synchrotron, recoiled fragments were thermalized, ionized and mass-separated; Ge(Li) detector, Measured:  $E\gamma$ ,  $\beta^- \gamma \gamma$  coin, absolute  $I\gamma$ .

1973Go34:  $^{29}\text{Mg}$  was produced bombarding  $\text{Ta}_2\text{O}_5$  target of 99% enriched in  $^{18}\text{O}$  by  $^{13}\text{C}$  beam,  $E=35$  MeV from a remote location using pneumatic system; Ge(Li) and NE102 detectors; Measured:  $E\gamma$ ,  $I\gamma$ ,  $I\beta$ ,  $\gamma$ - $\beta$  coin, deduced level energy.

1979De02:  $^{29}\text{Mg}$  was produced in the fragmentation of uranium target by 24 GeV protons from the CERN synchrotron, recoil fragments were thermalized, ionized and mass-separated; Ge(Li) detector, Measured:  $E\gamma$ , absolute  $I\gamma$ .

 $^{29}\text{Al}$  Levels

<u>E(level)<sup>†</sup></u>	<u><math>J^\pi</math><sup>‡</sup></u>	<u>E(level)<sup>†</sup></u>	<u><math>J^\pi</math><sup>‡</sup></u>	<u>E(level)<sup>†</sup></u>	<u><math>J^\pi</math><sup>‡</sup></u>	<u>E(level)<sup>†</sup></u>	<u><math>J^\pi</math><sup>‡</sup></u>
0	$5/2^+$	2865.6 4	$3/2^+$	3577.6 5	$(9/2)^+$	4057.0 7	$(1/2,3/2)^+$
1398.05 18	$1/2^+$	3061.7 4	$(5/2)^+$	3641.5 7	$(5/2)^+$	4219.6 6	$5/2^+$
1754.27 18	$7/2^+$	3184.54 20	$5/2^+$	3671.7 8	$(3/2,5/2)^+$	4403.1 7	$(7/2)^+$
2224.1 3	$3/2^+$	3433.0 7	$1/2^+$	3935.2 7	$(3/2,7/2)^+$		

<sup>†</sup> Up to 3433 keV, from a least-squares fit to  $\gamma$ -ray energies. Above 3433 keV, level energies are from Adopted Levels.

<sup>‡</sup> From Adopted Levels.

 $\beta^-$  radiations

<u>E(decay)</u>	<u>E(level)</u>	<u><math>I\beta^-</math><sup>†‡</sup></u>	<u>Log <math>ft</math></u>	<u>Comments</u>
(3210 11)	4403.1	<0.5	>5.3	av $E\beta=1380$ 15
(3393 11)	4219.6	<0.20	>5.8	av $E\beta=1468$ 15
(3556 11)	4057.0	<1	>5.2	av $E\beta=1547$ 15
(3678 11)	3935.2	<0.30	>5.8	av $E\beta=1606$ 15
(3941 11)	3671.7	<0.9	>5.5	av $E\beta=1734$ 15
(3972 11)	3641.5	<0.35	>5.9	av $E\beta=1749$ 15
(4035 11)	3577.6	<0.6	>5.7	av $E\beta=1780$ 15
(4180 11)	3433.0	3.0 9	5.06 14	av $E\beta=1850$ 15
(4428 11)	3184.54	28 5	4.21 9	av $E\beta=1971$ 15
(4551 11)	3061.7	6.0 16	4.93 13	av $E\beta=2031$ 15
(4747 11)	2865.6	7.8 15	4.90 10	av $E\beta=2127$ 15
(5389 11)	2224.1	21 6	4.73 13	av $E\beta=2442$ 15
(5859 11)	1754.27	<3	>5.7	av $E\beta=2673$ 15
(6215 11)	1398.05	7 3	5.49 19	av $E\beta=2848$ 15
(7613 11)	0	27 8	5.32 14	av $E\beta=3537$ 15

<sup>†</sup> From 1984Gu19.

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

$^{29}\text{Mg}$   $\beta^-$  decay    **1984Gu19,1973Go34,1979De02 (continued)** $\gamma(^{29}\text{Al})$ I $\gamma$  normalization: From [1984Gu19](#).

<u>E<math>\gamma</math><sup>†</sup></u>	<u>I<math>\gamma</math><sup>†‡</sup></u>	<u>E<math>_i</math>(level)</u>	<u>J<math>_i^\pi</math></u>	<u>E<math>_f</math></u>	<u>J<math>_f^\pi</math></u>	<u>E<math>\gamma</math><sup>†</sup></u>	<u>I<math>\gamma</math><sup>†‡</sup></u>	<u>E<math>_i</math>(level)</u>	<u>J<math>_i^\pi</math></u>	<u>E<math>_f</math></u>	<u>J<math>_f^\pi</math></u>
960.4 4	15.0 23	3184.54	5/2 <sup>+</sup>	2224.1	3/2 <sup>+</sup>	1786.4 4	2.8 6	3184.54	5/2 <sup>+</sup>	1398.05	1/2 <sup>+</sup>
1307.4 5	4.7 9	3061.7	(5/2) <sup>+</sup>	1754.27	7/2 <sup>+</sup>	2034.9 6	2.5 7	3433.0	1/2 <sup>+</sup>	1398.05	1/2 <sup>+</sup>
1398.0 2	16.4 25	1398.05	1/2 <sup>+</sup>	0	5/2 <sup>+</sup>	2224.0 3	36 5	2224.1	3/2 <sup>+</sup>	0	5/2 <sup>+</sup>
1430.2 4	7.0 12	3184.54	5/2 <sup>+</sup>	1754.27	7/2 <sup>+</sup>	2865.5 4	4.1 8	2865.6	3/2 <sup>+</sup>	0	5/2 <sup>+</sup>
1467.5 5	3.6 6	2865.6	3/2 <sup>+</sup>	1398.05	1/2 <sup>+</sup>	3061.6 4	1.5 5	3061.7	(5/2) <sup>+</sup>	0	5/2 <sup>+</sup>
1754.2 2	9.9 16	1754.27	7/2 <sup>+</sup>	0	5/2 <sup>+</sup>	3184.4 3	1.1 4	3184.54	5/2 <sup>+</sup>	0	5/2 <sup>+</sup>

† From [1984Gu19](#), except otherwise noted. Absolute I $\gamma$  in [1984Gu19](#) is consistent with the reported absolute I $\gamma$  in [1979De02](#).

‡ Absolute intensity per 100 decays.

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## Decay Scheme

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

Legend

