

Adopted Levels

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Kazimierz Zuber, Balraj Singh		NDS 125, 1 (2015)	25-Jan-2015

$Q(\beta^-) = -16140$  SY;  $S(n) = 14190$  SY;  $S(p) = 1230$  SY;  $Q(\alpha) = -3610$  SY [2012Wa38](#)

Estimated uncertainties ([2012Wa38](#)): 420 for  $Q(\beta^-)$ , 360 for  $S(n)$ ,  $S(p)$  and  $Q(\alpha)$ .

$Q(\epsilon p) = 13160$  300,  $S(2n) = 33560$  420,  $S(2p) = 1090$  300 (syst, [2012Wa38](#)).

[1987Ho01](#) (also [1979ViZY](#), [1978ViZT](#), thesis): production and identification of  ${}^{61}\text{Ge}$  in  ${}^{40}\text{Ca}({}^{24}\text{Mg}, 3n)$   $E = 77\text{-}120$  MeV and  $\text{Ca}({}^{28}\text{Si}, X)$  reactions. Measured beta-delayed proton spectra, half-life.

**Additional information 1.**

[2002Lo13](#) (also [2002B117](#)):  ${}^9\text{Be}({}^{78}\text{Kr}, X)$   $E = 73$  MeV/nucleon; LISE3 spectrometer at GANIL facility. Measured half-life from timing of correlated beta-delayed protons and implanted nuclei.

[2005St29](#) (also [2005St34](#)):  ${}^9\text{Be}({}^{78}\text{Kr}, X)$   $E = 140$  MeV/nucleon; A1900 fragment separator at NSCL facility. Measured production  $\sigma$ .

[2007B109](#):  ${}^{61}\text{Ge}$  nuclei produced in a fragmentation of  ${}^{70}\text{Ge}^{+28}$  beam at an energy of 71.6 MeV using LISE3 facility at GANIL. A nickel target was used. Measured delayed proton events by implanting nuclei in a double-sided silicon strip detector (DSSSD) and isotopic  $T_{1/2}$ .

Calculated  $Q(\beta^-)$  and  $S(p)$ : [1997Or04](#).

 ${}^{61}\text{Ge}$  Levels

E(level)	$J^\pi$	$T_{1/2}$	Comments
0	$(3/2^-)$	44 ms 6	$\% \epsilon + \% \beta^+ = 100$ ; $\% \epsilon p > 62$ ( <a href="#">2007B109</a> ) $\% \epsilon p$ : $\%$ listed as $\epsilon p > 62$ 4 ( <a href="#">2007B109</a> ). Other: $\approx 80$ ( <a href="#">1987Ho01</a> ). $J^\pi$ : $T_z = -3/2$ mirror state of ${}^{61}\text{Cu}$ g.s. $T_{1/2}$ : weighted average of 45 ms 6 (delayed proton timing, <a href="#">2007B109</a> ) and 40 ms 15 ( <a href="#">1987Ho01</a> , pulsed beam). Other: 36 ms 21 ( <a href="#">2002Lo13</a> , same group as <a href="#">2007B109</a> ).