

Adopted Levels

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Alexandru Negret, Balraj Singh		NDS 114, 841 (2013)	30-Jun-2013

$Q(\beta^-)=15150$  SY;  $S(n)=4710$  SY;  $S(p)=17150$  SY;  $Q(\alpha)=-16320$  SY [2012Wa38](#)

$S(2n)=8350$  860,  $Q(\beta^-n)=11290$  810 (syst,[2012Wa38](#)).  $S(2p)=38370$  (calc,[1997Mo25](#)).

Estimated uncertainties ([2012Wa38](#)): 760 keV for  $Q(\beta^-)$ , 920 for  $S(n)$ , 1060 for  $S(p)$  and 990 for  $Q(\alpha)$ .

[1997Be70](#) (also [1995En07](#)):  $^{75}\text{Co}$  identified by analyzing fragments using the FRS fragment separator at GSI and the  $B\rho$ -E-tof (time of flight=150 ns) technique from fission in  $^{9}\text{Be}(^{238}\text{U},X)$   $E=750$  MeV/nucleon,  $\sigma=3\times 10^{-4}$   $\mu\text{b}$ . Two events were assigned to  $^{75}\text{Co}$ .

[2010Ho12](#):  $^9\text{Be}(^{86}\text{Kr},X)$   $E=140$  MeV/nucleon; fully-ionized  $^{86}\text{Kr}$  beam, A1900 fragment separator at NSCL facility using  $B\rho$ - $\Delta E$ - $B\rho$  method. After separation, the mixed beam was implanted into the NSCL  $\beta$ -counting system (BCS) consisting of stacks of Si PIN detectors, a double-sided Si strip detector (DSSD) for implantation of ions, and six single-sided Si strip detectors (SSSD) followed by two Si PIN diodes. The identification of each implanted event was made from energy loss, ToF information and magnetic rigidity. The implantation detector measured time and position of ion implantations and  $\beta$  decays. Neutrons were detected with NERO detector. Measured  $\beta$ - and  $\beta n$ -correlated events with ion implants, half-life of  $^{75}\text{Co}$  and delayed-neutron emission probability. A total of 76 implants were detected and one correlated  $\beta n$  coincidence was observed.

Theoretical calculations: [1984So19](#).

 $^{75}\text{Co}$  Levels

E(level)	$T_{1/2}$	Comments
0.0	30 ms <i>ll</i>	$\% \beta^- = 100$ ; $\% \beta^- n < 16$ ( <a href="#">2010Ho12</a> ); $\% \beta^- 2n = ?$ $T_{1/2}$ : from measurement of time sequence of decay type events correlated with the implanted nuclei (of $^{75}\text{Co}$ ) in Si detectors ( <a href="#">2010Ho12</a> ). The authors used method of maximum likelihood analysis which required, as input parameters, values of $\beta$ -detection efficiency, background, half-lives of daughter and granddaughter nuclei and experimental or theoretical values of $\% \beta^- n$ of all nuclei involved. $J^\pi$ : $7/2^-$ proposed from systematics ( <a href="#">2012Au07</a> ) and theory ( <a href="#">1997Mo25</a> ). Theoretical values: $\% \beta^- n = 6.9$ ( <a href="#">1997Mo25</a> ), 7.4, 8.0 ( <a href="#">2002Pf04</a> ); $\% \beta^- 2n = 0.5$ ( <a href="#">1997Mo25</a> ). Systematic $\% \beta^- n = 37.9$ ( <a href="#">2002Pf04</a> ).