

Adopted Levels

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen		NDS 116, 1 (2014)	31-Dec-2013

$Q(\beta^-)=9224$ 4; $S(n)=5407$ 4; $S(p)=12330$ 4; $Q(\alpha)=-7986$ 4 [2012Wa38](#)

$Q(\beta^-n)=4687$ 4, $S(2n)=9662$ 4, $S(2p)=28510$ 4 ([2012Wa38](#)).

^{85}As identified in neutron-induced fission by chemical separation and milking daughter products $^{85,84}\text{Se}$ ([1967De01](#)). Tentative identification was also mentioned in delayed neutron decay studies ([1966To02](#)), and in fission of ^{238}U (Wanless and Thode: Can. Jour. Phys. 33, 54 (1955)).

^{86}Ge has been identified ([1994Be24](#)) but its decay properties are not known experimentally. From theoretical calculations of [1997Mo25](#) and [2005Bo19](#), total delayed-neutron decay to ^{85}As is expected to be 7% ([1997Mo25](#)) and 70% ([2005Bo19](#)). Others: [2008Ha23](#), [2008Su19](#).

^{85}As produced by [2008Ha23](#) through $\text{U}(p,F)$ and $\text{U}(d,F)$ reactions at 25 MeV. In [2008Su19](#), ^{85}As was produced in $^9\text{Be}(^{238}\text{U},X)$ at $E(^{238}\text{U})=411$ MeV/nucleon.

Mass measurements: [2008Ha23](#) (JYFLTRAP, Penning-trap method at IGISOL facility in Jyvaskyla). [2008Su19](#) (large-scale Isochronous Mass spectrometry at FRS-ESR facility in GSI). See also [2009Su04](#) and [2010Li02](#) (conference papers) from the same group as [2008Su19](#).

[2005Bo19](#): theoretical calculation of half-life and β -delayed neutron emission probability.

Three γ rays of 101.9, 267 and 395 keV are reported from $^{85}\text{Ge} \beta^-$ decay to ^{85}As , but no level scheme of ^{85}As is proposed.

 ^{85}As LevelsCross Reference (XREF) Flags

- A** $^{85}\text{Ge} \beta^-$ decay (503 ms)
B $^{86}\text{Ge} \beta^-n$ decay (226 ms)

E(level)	J^π	$T_{1/2}$	XREF	Comments
0	($3/2^-$)	2.021 s 12	AB	$\% \beta^- = 100$; $\% \beta^-n = 62.9$ 20 J^π: from systematics of odd-a neutron-rich As isotopes. $T_{1/2}$: unweighted average of 2.002 s 13 (1993Ru01), 2.032 s 12 (1991Kr15) and 2.028 s 12 (1968To19). Others: 2.08 s 14 (2013Ma22), 2.0 s 1 (1991Om01), 1.90 s 10 (1978Cr03), 2.08 s 5 (1976Ru01), 2.05 s 5 (1973Kr06), 2.15 s 15 (1967De01), 1969ScZY. $\% \beta^-n$: weighted average of 64.1 14 (2013AgZY) and 59.4 24 (1993Ru01). Other values: 39 5 (1991Om01), and 58 10 (1991Kr15). Earlier measurements of 23 3 (1973Kr06) and 22 8 (1978Cr03) were based on outdated fission yields. Analysis and evaluation of $\% \beta^-n$ data: 1989BrZI, 1982Ru01, 1977Ru10, 1975Iz03. Measured delayed-neutron emission probability or yields: 1993Ru01, 1991Om01, 1991Om02, 1991Kr15, 1979Kr03, 1978Cr03, 1975Kr08, 1973Kr06, 1969ScZY, 1968To18, 1968To19, 1967De01, 1966To02. Measured delayed-neutron spectra: 1981ShZS, 1979Kr03, 1976Kr18 (also 1974Fr09), 1976Ru01, 1974Cr06, 1974Sh18, 1973Kr06, 1968To18, 1968To19, 1967De01, 1966To02. Additional information 1.