^{70}Mn β^- decay (19.9 ms) 2015Be32

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	G. Gürdal, E. A. Mccutchan	NDS 136, 1 (2016)	1-Jul-2016

Parent: ^{70}Mn: E=0.0; $T_{1/2}$=19.9 ms *17*; Q(β^-)=1.71×10^4 *SY*; %β^- decay=100.0

2015Be32: ^{70}Mn activity from in-flight fission of a ^{238}U beam at E=345 MeV/nucleon on a Be target. Fragments separated with the Big-RIPS separator combined with the ZeroDegree Spectrometer. Measured Eγ, Iγ, $\beta\gamma$, β(t), $\beta\gamma$(t) using the 5 silicon detectors of the WAS3ABI array which was surrounded by the EURICA spectrometer consisting of 12 HPGe EUROBALL cluster detectors and 18 small volume $LaBr_3$(Ce) scintillators.

The decay scheme given here is considered highly incomplete, as such, the normalization, beta-feedings and log ft values should be taken as approximate.

^{70}Fe Levels

E(level)[†]	J$^\pi$[‡]
0	0$^+$
483	(2$^+$)
1338	(4$^+$)

[†] From Eγ.
[‡] From the Adopted Levels.

β^- radiations

E(decay)	E(level)	Iβ^-[†‡]	Log *ft*	Comments
(15762 *SY*)	1338	≈18.5	≈5.3	av Eβ=7.49×10^3 *44* Iβ^-: 37 *5* (2015Be32).
(17100 *SY*)	0	<39	>5.2	av Eβ=8.14×10^3 *44* Iβ^-: <68 *10* (2015Be32).

[†] Values given in 2015Be32 sum to 100, which is in conflict with a %β^-n branch of 50 *20*. Evaluators have adjusted values from 2015Be32 such that they sum to 50. Values from 2015Be32 are given in the comments.
[‡] Absolute intensity per 100 decays.

γ(^{70}Fe)

Iγ normalization: 2015Be32 provide only %Iβ^- values, from which the evaluators have deduced Iγ values and a normalization factor which reproduces the %Iβ^- values (correcting for a 50% beta-delayed neutron branch).

E$_\gamma$	I$_\gamma$[†‡]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
483	31 *5*	483	(2$^+$)	0	0$^+$
855	37 *5*	1338	(4$^+$)	483	(2$^+$)

[†] Deduced by evaluators from %Iβ^-=37 *5* to 1338-keV level and −6 *8* to 483-keV level.
[‡] For absolute intensity per 100 decays, multiply by ≈0.5.

^{70}Mn β^- decay (19.9 ms) 2015Be32

Decay Scheme

Intensities: I_γ per 100 parent decays