Adopted Levels, Gammas

History

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

Q(β^-)=10610 *SY*; S(n)=5320 *SY*; S(p)=19060 *SY*; Q(α)=−14200 *SY* 2012Wa38
ΔQ(β^-)=590; ΔS(n)=640; ΔS(p)=780; ΔQ(α)=710 (2012Wa38).
S(2n)=8630 syst *620*; S(2p)=36010 syst *860*; Q(β^-n)=5790 syst *540* (2012Wa38).
First production and identification of ^{70}Fe: Be(^{238}U,F), E=750 MeV/nucleon (1997Be70), Pb(^{238}U,F), E=750 MeV/nucleon (1995CzZZ), identification by time-of-flight.
2003So21: ^{70}Fe produced in fragmentation of a ^{76}Ge beam at E=61.8 MeV/nucleon on a ^{58}Ni target. Isotopes separated with the LISE3 spectrometer and identified through ΔE and time-of-flight measurements. Measured $T_{1/2}$ from time correlation between implantation and β events in a DSSD detector.
2011Da08: ^{70}Fe produced in fragmentation of a ^{86}Kr beam at E=57.8 MeV/nucleon on a natural Ta target. Isotopes separated with the LISE2000 spectrometer and identified through ΔE and time-of-flight measurements. Measured $T_{1/2}$ from time correlation between implantation and β events in a DSSD detector.
2013Ma87: ^{70}Fe produced in fragmentation of a ^{86}Kr beam at E=140 MeV/nucleon on a ^{9}Be target. Isotopes separated with the A1900 spectrometer and identified through ΔE and time-of-flight measurements. Measured $T_{1/2}$ from time correlation between implantation and β events in a DSSD detector.

^{70}Fe Levels

Cross Reference (XREF) Flags

A ^{70}Mn β^- decay (19.9 ms)
B ^{1}H(^{71}Co,2pγ)

E(level)†	Jπ‡	$T_{1/2}$	XREF	Comments
0.0	0^+	65 ms *6*	AB	%β^-=100; %β^-n=? $T_{1/2}$: weighted average of 61 ms *5* (2013Ma87), 71 ms *10* (2011Da08) and 94 ms *17* (2003So21), all from implant-β(t). Theoretical calculations give %β^-n=11 (2003Mo09).
480 *13*	(2^+)		AB	
1346 *16*	(4^+)		AB	

† From Eγ.
‡ From systematics along the Fe and Cr isotopic chains (2015Sa43).

γ(^{70}Fe)

E_i(level)	J_i^π	E_γ†	I_γ†	E_f	J_f^π	Comments
480	(2^+)	480 *13*	100	0.0	0^+	E_γ: other: 483 in ^{70}Mn β^- decay.
1346	(4^+)	866 *10*	100	480	(2^+)	E_γ: other: 855 in ^{70}Mn β^- decay.

† From ^{71}Co(p,2pγ).

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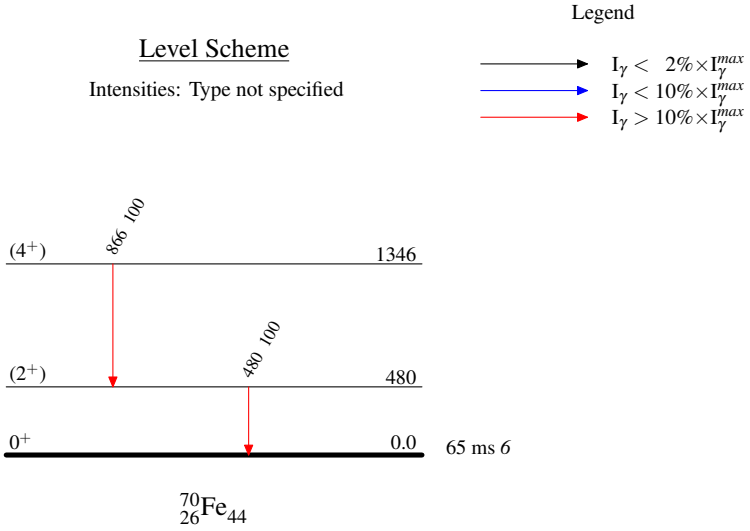
Level Scheme

Intensities: Type not specified



$^{70}_{26}Fe_{44}$