

^{26}F β^- decay (2.2 ms) 2013Le03

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia and A. M. Hurst		NDS 134, 1 (2016)	1-Feb-2016

Parent: ^{26}F : $E=643.4$ I; $J^\pi=(4^+)$; $T_{1/2}=2.2$ ms I; $Q(\beta^-)=18190$ 80; $\% \beta^-$ decay=18 11

^{26}F was produced from fragmentation of a primary beam of ^{36}S , $E=77.6$ MeV/nucleon on a Be target (thickness 237 mg/cm²); Separated by LISE spectrometer at GANIL, identified from energy loss in a stack of Si detectors and time-of-flight; Implanted in a 1 mm-thick double-sided Si stripped (DSSSD) detector, surrounded by four clover HPGe detectors; $\beta\gamma$ and $\gamma\gamma$ coincidences, deduce level scheme, half-life. Shell model calculations.

 ^{26}Ne Levels

E(level)	J^π [†]	Comments
0.0	0 ⁺	
2017.83 25	2 ⁺	
3517.0 5	(3 ⁺ ,4 ⁺)	
5360.5 10	(3 ⁺ ,4 ⁺)	
S(n)+x		E(level): Sn(^{26}Ne)=5530 50 (2012Wa38).

[†] From Adopted Levels.

 β^- radiations

E(decay)	E(level)	$I\beta^-$ ^{†‡}	Log ft	Comments
(7×10^3 # 7)	S(n)+x	12 8		$I\beta^-$: 65% 18 of $\% \beta^- = 18\%$ 11. av $E\beta = 6474$ 40
(1.347×10^4 8)	5360.5	0.3 1	5.7	$I\beta^-$: 4% 2 listed in 2013Le03 is relative to 100% β^- branch, whereas the absolute β^- decay branch is only 18% 11.
(1.532×10^4 8)	3517.0	2.0 2	5.1	av $E\beta = 7385$ 40 $I\beta^-$: 31% 17 listed in 2013Le03 is relative to 100% β^- branch, whereas the absolute β^- decay branch is 18% 11.

[†] From γ -ray intensity balance by evaluators. $\% \beta^- n = 12$ 8 – which is 65% 18 of $\% \beta^- = 18\%$ 11 (2013Le03).

[‡] Absolute intensity per 100 decays.

Estimated for a range of levels.

 $\gamma(^{26}\text{Ne})$

I_γ normalization: Absolute γ intensities are provided by 2013Le03. See comments for I_γ .

E_γ [†]	I_γ ^{‡#}	E_i (level)	J_i^π	E_f	J_f^π	Comments
1499.1 4	2.3 2	3517.0	(3 ⁺ ,4 ⁺)	2017.83	2 ⁺	
1843.4 8	0.3 1	5360.5	(3 ⁺ ,4 ⁺)	3517.0	(3 ⁺ ,4 ⁺)	
2017.9 3		2017.83	2 ⁺	0.0	0 ⁺	E_γ : From Adopted Gammas.

[†] Assigned to isomeric state decay based on $\gamma(t)$ measurements of 1499 γ and 1843 γ yield half-life values of 2.4 ms 2 and 2 ms 1, respectively.

[‡] Obtained from A. Lepailleur (1st author of 2013Le03) through e-mail communications (Sept 16, 2015) for 100 ^{26}F β^- decay.

Absolute intensity per 100 decays.

^{26}F β^- decay (2.2 ms) 2013Le03**Decay Scheme**Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- Coincidence

