^{26}F β^-n decay (8.2 ms) 2013Le03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia, Anagha Chakraborty	NDS 205,1 (2025)	31-May-2025

Parent: ^{26}F: E=0.0; $J^\pi=1^+$; $T_{1/2}$=8.2 ms *9*; Q(β^-n)=12.64×10^3 *11*; %β^-n decay=13.5 *4*

^{26}F-J^π,$T_{1/2}$: from ^{26}F Adopted Levels in the ENSDF (2016Ba18).

^{26}F-Q(β^-n): from 2021Wa16: AME-2021.

^{26}F-%β^-n decay: from ^{26}F Adopted Levels in 2016Ba18.

^{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/cm^2), separated by LISE spectrometer at GANIL, identified from energy loss in a stack of Si detectors and time-of-flight, and implanted in a 1 mm-thick double-sided Si stripped (DSSSD) detector surrounded by four clover HPGe detectors. Measured Eγ, Iγ, $\beta\gamma$ and $\gamma\gamma$ coincidences, half-life of ^{26}F g.s. and isomer, β^-n branch. Deduced levels, J, π. Comparison with Shell model calculations.

^{25}Ne Levels

E(level)[†]	J^π[‡]	$T_{1/2}$[‡]
0.0	$1/2^+$	603 ms *8*
1701.0 *4*	$(5/2,3/2)^+$	
2088.8	$(3/2,5/2)^+$	
3114.4 *8*		
3320.6		
3327	$(3/2,1/2)^-$	

† From Eγ data.

‡ From Adopted Level. Same value in 2013Le03.

$\gamma(^{25}Ne)$

E_γ	I_γ[†‡]	E_i(level)	J_i^π	E_f	J_f^π
1413.2 *7*	0.7 *1*	3114.4		1701.0	$(5/2,3/2)^+$
1620	0.2 *1*	3320.6		1701.0	$(5/2,3/2)^+$
1700.9 *4*	3.9 *4*	1701.0	$(5/2,3/2)^+$	0.0	$1/2^+$
2088.7	0.6 *1*	2088.8	$(3/2,5/2)^+$	0.0	$1/2^+$
3116 *2*	0.2 *1*	3114.4		0.0	$1/2^+$
3320	0.4 *1*	3320.6		0.0	$1/2^+$
3327	0.9 *2*	3327	$(3/2,1/2)^-$	0.0	$1/2^+$

† Received from A. Lepailleur (1st author of 2013Le03) through e-mail communications (Sept 16, 2015).

‡ Absolute intensity per 100 decays.

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Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays