

${}^1\text{H}({}^{27}\text{F}, {}^{26}\text{F}\gamma)$  2004EI10

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

2004EI10:  ${}^1\text{H}({}^{27}\text{F}, {}^{25}\text{F}\gamma)$ ;  ${}^{27}\text{F}$  was obtained bombarding a primary beam of  ${}^{40}\text{Ar}$ ,  $E=94$  MeV/u, on  ${}^{181}\text{Ta}$  target; reaction products were momentum and mass analyzed by RIPS fragment separator at RIKEN and identified by energy loss, time-of-flight and magnetic rigidity; the secondary beam of  ${}^{27}\text{F}$ ,  $E=40$  MeV/nucleon, directed to a liquid hydrogen target;  $E\gamma$  was measured by DALI2 setup of 146 NaI(Tl) scintillator detectors.

 ${}^{26}\text{F}$  Levels

E(level)	$J^\pi$ <sup>†</sup>	Comments
0.0	$1^+$	
665	$(2^+)$	$J^\pi$ : $2^+$ state is predicted to be the 2nd excited state in ${}^{26}\text{F}$ in shell model calculations (2004EI10).

<sup>†</sup> From Adopted Levels.

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

$E_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Comments
<sup>x</sup> 468 17					$E_\gamma$ : Peak energy determined at $2.2\sigma$ confidence level. The shell model calculation for the members of $\pi d_{5/2} \otimes \nu d_{3/2}$ multiplets gives the lowest excited state at 353 keV level with $J^\pi=4^+$ . 2004EI10 conclude that $468\gamma$ depopulating from this $4^+$ state to g.s. is unlikely, since it will be a M3 transition having too long lifetime to be observed in their experiment.
665 12	665	$(2^+)$	0.0	$1^+$	$E_\gamma$ : Peak energy determined at $3.8\sigma$ confidence level. Placement of $665\gamma$ from $2^+$ state is proposed by 2004EI10 from shell model calculations.

<sup>x</sup>  $\gamma$  ray not placed in level scheme.

---

${}^1\text{H}({}^{27}\text{F}, {}^{26}\text{F}\gamma)$  2004E110

Level Scheme

