¹⁷⁶Hf(⁴⁰Ar,3nγ) **2021Zh24**

History								
Туре	Author	Citation	Literature Cutoff Date					
Full Evaluation	M. S. Basunia	NDS 181, 475 (2022)	1-Jan-2022					

⁴⁰Ar beam, E=183, 190 MeV, from Sector-Focusing Cyclotron (SFC) of HIRFL-Lanzhou facility. Enriched target (84.6%) in ¹⁷⁶Hf. Evaporation residues (ERs) were separated using the SHANS gas-filled recoil separator, and implanted into three position-sensitive silicon strip detectors (PSSDs). Two multi-wire proportional counters (MWPCs) and two HPGe detectors. Measured half-life of the 13/2⁺ isomer. Shell model calculations.

²¹³Th Levels

E(level) [†]	$J^{\pi \ddagger}$	T _{1/2}	Comments		
0	5/2-				
799 <i>1</i>	$(9/2^{-})$				
1180 <i>I</i>	$(13/2^+)$	8.30 µs 82	%IT=100		
			T _{1/2} : from $(381\gamma+799\gamma)(t)$ (2021Zh24). For individual $\gamma(t)$: 9.56 μ s 174 – $\gamma(381)(t)$ and 8.80 μ s 140 – $\gamma(799)(t)$ (2021Zh24).		

[†] From $E\gamma$.

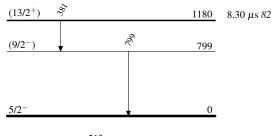
[‡] From Adopted Levels. Same assignments are listed in 2021Zh24 without parentheses. References or arguments were not listed/mentioned.

γ ⁽²¹³Th)

Eγ	E _i (level)	\mathbf{J}_i^{π}	\mathbf{E}_{f}	J_f^π
381 <i>1</i>	1180	$(13/2^+)$	799	(9/2 ⁻)
799 <i>1</i>	799	(9/2 ⁻)	0	5/2 ⁻

¹⁷⁶Hf(⁴⁰Ar,3nγ) 2021Zh24

Level Scheme



 $^{213}_{90}{\rm Th}_{123}$