

²⁵²Cf SF decay 2000Hw03

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 110, 1 (2009)	20-Nov-2008

Parent: ²⁵²Cf: E=0.0; J^π=0⁺; T_{1/2}=2.645 y 8; %SF decay=3.092 8

2000Hw03 (also 2001Ha14): Measured E_γ and γγ using GAMMASPHERE array comprised of 72 Compton-suppressed Ge detectors.

πh_{11/2} band assigned to ¹⁴⁹Pr in 1998Hw08 actually belongs to ¹⁵¹Pr as explained in 2000Hw03.

¹⁵¹Pr Levels

E(level) [†]	E(level) [†]	J ^π	E(level) [†]	J ^π	E(level) [†]	J ^π
0+x	282.2+x 5		683.3+x [‡] 7	(15/2 ⁻)	1602.5+x [‡] 9	(27/2 ⁻)
96.0+x 3	417.5+x 6		914.5+x [‡] 8	(19/2 ⁻)	2063.4+x [‡] 9	(31/2 ⁻)
178.2+x 4	595.4+x [‡] 7	(11/2 ⁻)	1218.2+x [‡] 8	(23/2 ⁻)	2591.9+x [‡] 10	(35/2 ⁻)

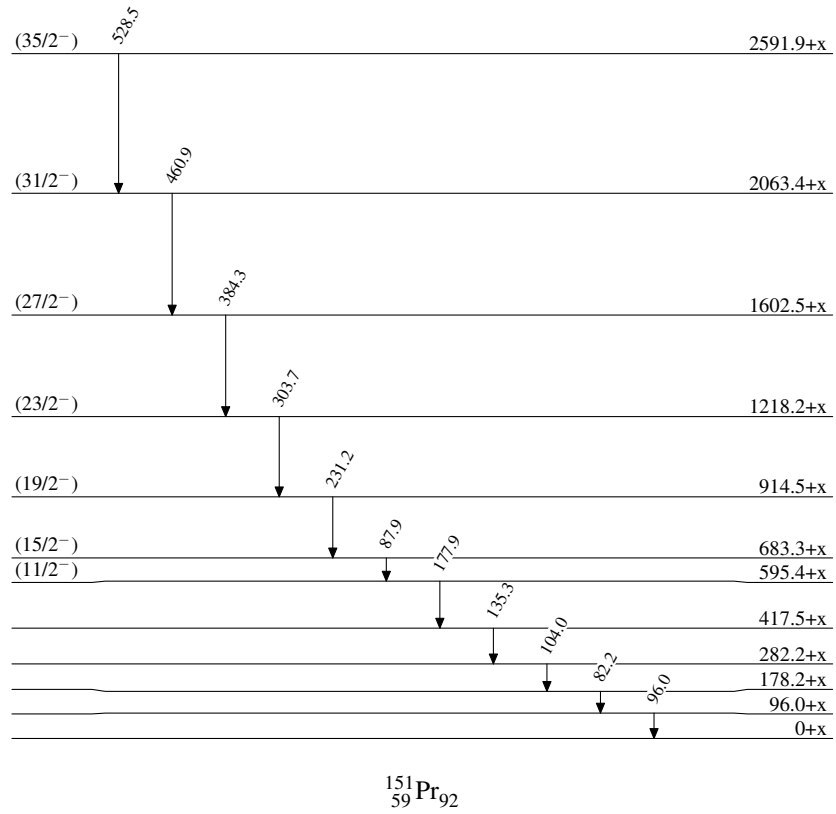
[†] From E_γ's, assuming Δ(E_γ)=0.3 keV for each γ ray.

[‡] Band(A): πh_{11/2} band. Band assignment from systematics.

γ(¹⁵¹Pr)

E _γ	E _i (level)	J _i ^π	E _f	J _f ^π	Comments
^x 52.6					E _γ : from 1972ChYZ. Prompt γ identified through (fragment)(fragment)(x ray)γ coincidences. This γ is not seen by 2000Hw03.
82.2	178.2+x		96.0+x		
87.9	683.3+x	(15/2 ⁻)	595.4+x	(11/2 ⁻)	
96.0	96.0+x		0+x		E _γ : probably the same as 96.8γ reported by 1974CIZW in ¹⁵¹ Ce decay.
104.0	282.2+x		178.2+x		
135.3	417.5+x		282.2+x		
177.9	595.4+x	(11/2 ⁻)	417.5+x		
231.2	914.5+x	(19/2 ⁻)	683.3+x	(15/2 ⁻)	
303.7	1218.2+x	(23/2 ⁻)	914.5+x	(19/2 ⁻)	
384.3	1602.5+x	(27/2 ⁻)	1218.2+x	(23/2 ⁻)	
460.9	2063.4+x	(31/2 ⁻)	1602.5+x	(27/2 ⁻)	
528.5	2591.9+x	(35/2 ⁻)	2063.4+x	(31/2 ⁻)	

^x γ ray not placed in level scheme.

$^{252}\text{Cf SF decay}$ 2000Hw03Level Scheme

^{252}Cf SF decay 2000Hw03Band(A): $\pi h_{11/2}$ band(35/2⁻) 2591.9+x

528

(31/2⁻) 2063.4+x

461

(27/2⁻) 1602.5+x

384

(23/2⁻) 1218.2+x

304

(19/2⁻) 914.5+x

231

(15/2⁻) 683.3+x

88

(11/2⁻) 595.4+x $^{151}_{59}\text{Pr}_{92}$