

$^{154}\text{Sm}(^{36}\text{S},4n\gamma)$ 2012Wa16

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. C. Batchelder and A. M. Hurst, M. S. Basunia		NDS 183, 1 (2022)	1-Mar-2022

Adapted/edited the XUNDL dataset Compiled by E. Thiagalingam and B. Singh (McMaster), May 28, 2012.

^{36}S beam at E=167 MeV. Target=500 $\mu\text{g}/\text{cm}^2$ ^{154}Sm on a 1.2 mg/cm^2 Au foil backing. Gamma rays detected by the Argonne-Notre Dame γ -ray Facility (12 Compton-suppressed HPGe detectors and a 50-element BGO multiplicity array). Measured level lifetimes by RDM using Notre Dame plunger device. Deduced Q_t .

 ^{186}Pt Levels

E(level)	J^π	$T_{1/2}^\dagger$	Comments
0.0	0^+		
191.4	2^+	220 ps 17	$Q_t=5.87$ eb 22. $T_{1/2}$: From $\tau=318$ ps 24.
490.2	4^+	18.9 ps 13	$Q_t=6.37$ eb 22. $T_{1/2}$: From $\tau=27.3$ ps 19.
877.4	6^+	3.54 ps 28	$Q_t=7.5$ eb 3. $T_{1/2}$: From $\tau=5.1$ ps 4.
1342.8	8^+	1.39 ps 14	$Q_t=7.4$ eb 4. $T_{1/2}$: From $\tau=2.0$ ps 2.
1858.2	10^+	0.83 ps 7	$Q_t=7.4$ eb 3. $T_{1/2}$: From $\tau=1.2$ ps 1.
2337.0	12^+	1.39 ps 14	$Q_t=6.8$ eb 3. $T_{1/2}$: From $\tau=2.0$ ps 2.
2826.2	14^+	1.46 ps 14	$Q_t=6.3$ eb 3. $T_{1/2}$: From $\tau=2.1$ ps 2.
3397.3	16^+	0.76 ps 14	$Q_t=5.9$ eb 5. $T_{1/2}$: From $\tau=1.1$ ps 2.
4055.3	18^+	<1.25 ps	$T_{1/2}$: Upper limit from $\tau=1.6$ ps 2 – since side feeding correction could not be applied.

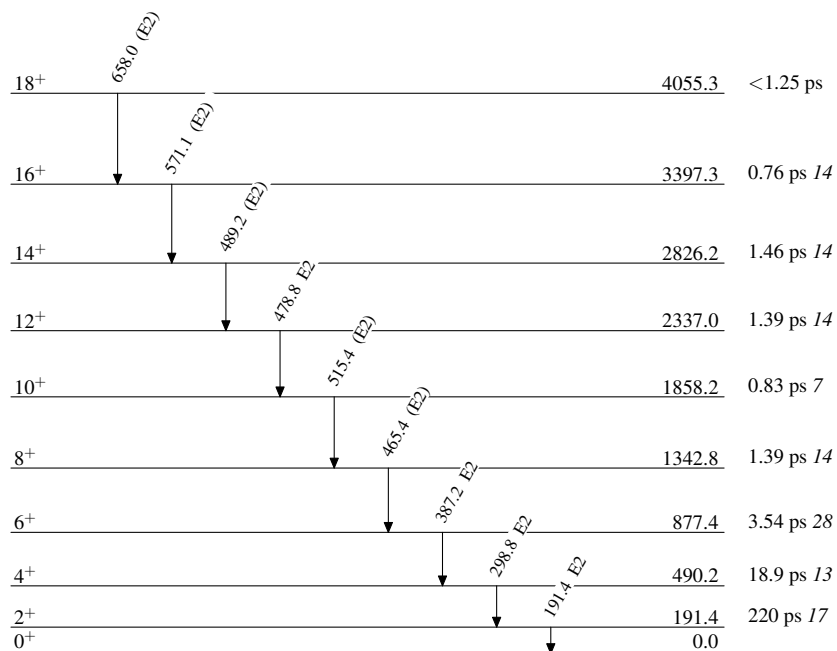
† Measured by recoil distance Doppler-shift (RDDS) method.

 $\gamma(^{186}\text{Pt})$

E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. †	$\alpha^\ddagger$
191.4	191.4	2^+	0.0	0^+	E2	0.418
298.8	490.2	4^+	191.4	2^+	E2	0.0996
387.2	877.4	6^+	490.2	4^+	E2	0.0477
465.4	1342.8	8^+	877.4	6^+	(E2)	0.0296
478.8	2337.0	12^+	1858.2	10^+	E2	0.0275
489.2	2826.2	14^+	2337.0	12^+	(E2)	0.0261
515.4	1858.2	10^+	1342.8	8^+	(E2)	0.0230
571.1	3397.3	16^+	2826.2	14^+	(E2)	0.0180
658.0	4055.3	18^+	3397.3	16^+	(E2)	0.01308

† From Adopted gammas.

‡ Additional information 1.

$^{154}\text{Sm}(^{36}\text{S},4n\gamma)$ 2012Wa16Level Scheme $^{186}_{78}\text{Pt}_{108}$