

$^{141}\text{Pr}(^{16}\text{O},\text{p6n})$ 2004Wa05

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, A. A. Sonzogni		NDS 114, 435 (2013)	1-Apr-2013

2004Wa05: ^{150}Dy was produced by $^{141}\text{Pr}(^{16}\text{O},\text{p6n})$ reaction at $E=165$ MeV. Recoils stopped in a thick Pr target and γ - γ coincidences measured using five Compton-suppressed HPGe detectors.

In a complimentary experiment, the authors used a combination of pulsed beam and the recoil-shadow technique with the natural $\text{Mg}(^{132}\text{Xe},6\text{n})$ inverse kinematic reaction at 7 MeV/n to establish a new high spin isomer at 10.3 MeV excitation energy. However, the spin-parity assignments of the isomer and the states above the isomer are tentative.

 ^{150}Dy Levels

E(level)	J^π	$T_{1/2}$	Comments
0.0	0^+		
804.0 10	2^+		
1457.0 14	4^+		
1851.0 17	6^+		
2402.0 20	8^+		
3026.0 22	10^+	1.1 ns 3	$T_{1/2}$: from Adopted Levels.
3835.0 24	12^+		
4338 3	14^+		
4567 3	16^+	1.6 ns 6	$T_{1/2}$: from Adopted Levels.
5071 3	18^+		
5813 3	19^-		
6019 3	20^-		
6395 3	21^-		
7474 3	22^-		
7741 3	23^-		
8008 4	24^-		
8611 4	25^-		
8922 4	(23^-)		
9107 4	26^+		
9275 4	(25^-)		
9306 4	(27^+)		
9897 4	(26^-)		
9976 4	(27^-)		
10328 4	(29^-)	1.6 ns 6	$T_{1/2}$: the halflife of the isomeric state is determined using the centroid-shift method with the $^{141}\text{Pr}(^{16}\text{O},\text{p6n})^{150}\text{Dy}$ reaction.
11007 4	(30^-)		
11306 4	(31^-)		
11703 4	(32^-)		
12354 4	(33^-)		
12737 4	(34^+)		
12778 4	(34^-)		
12929 4	(35)		
13599 4	(36)		
13804 4	(36^+)		
14057 4	(37)		

$^{141}\text{Pr}(^{16}\text{O,P6NG})$ **2004Wa05** (continued) $\gamma(^{150}\text{Dy})$

E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
79	9976	(27 ⁻)	9897	(26 ⁻)	603	8611	25 ⁻	8008	24 ⁻
151	12929	(35)	12778	(34 ⁻)	622	9897	(26 ⁻)	9275	(25 ⁻)
199	9306	(27 ⁺)	9107	26 ⁺	624	3026.0	10 ⁺	2402.0	8 ⁺
206	6019	20 ⁻	5813	19 ⁻	651	12354	(33 ⁻)	11703	(32 ⁻)
229	4567	16 ⁺	4338	14 ⁺	653	1457.0	4 ⁺	804.0	2 ⁺
253	14057	(37)	13804	(36 ⁺)	670	13599	(36)	12929	(35)
267	7741	23 ⁻	7474	22 ⁻	679	11007	(30 ⁻)	10328	(29 ⁻)
267	8008	24 ⁻	7741	23 ⁻	696	11703	(32 ⁻)	11007	(30 ⁻)
352	10328	(29 ⁻)	9976	(27 ⁻)	742	5813	19 ⁻	5071	18 ⁺
353	9275	(25 ⁻)	8922	(23 ⁻)	804	804.0	2 ⁺	0.0	0 ⁺
376	6395	21 ⁻	6019	20 ⁻	809	3835.0	12 ⁺	3026.0	10 ⁺
383	12737	(34 ⁺)	12354	(33 ⁻)	978	11306	(31 ⁻)	10328	(29 ⁻)
394	1851.0	6 ⁺	1457.0	4 ⁺	1021	10328	(29 ⁻)	9306	(27 ⁺)
397	11703	(32 ⁻)	11306	(31 ⁻)	1067	13804	(36 ⁺)	12737	(34 ⁺)
458	14057	(37)	13599	(36)	1075	12778	(34 ⁻)	11703	(32 ⁻)
496	9107	26 ⁺	8611	25 ⁻	1346	7741	23 ⁻	6395	21 ⁻
503	4338	14 ⁺	3835.0	12 ⁺	1455	7474	22 ⁻	6019	20 ⁻
504	5071	18 ⁺	4567	16 ⁺	2527	8922	(23 ⁻)	6395	21 ⁻
551	2402.0	8 ⁺	1851.0	6 ⁺					

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Level Scheme

