

²⁰⁸Pb(¹⁸O,X γ) **2001Kr08**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, F. G. Kondev		NDS 124, 157 (2015)	1-Aug-2014

2001Kr08: Facility: 88-inch cyclotron at LBNL; Target: 45mg/cm² ²⁰⁸Pb; Beam: E(¹⁸O)= 91 MeV; Detectors: Gammasphere array consisting of 100 Compton- suppressed Ge detectors; Measured: γ - γ - γ coinc., E γ , I γ ; Deduced: ¹¹²Pd level scheme, rotational bands; Also from the same group: **2000KrZX**.

Others: **1999Ho25:** ²³⁸U(¹²C,F γ) induced fission at E(¹²C)= 90 MeV; Detectors: Euroball III; Measured: γ - γ - γ coinc., E γ ; Also from the same group: **2000LuZY**, **1990DuZW**.

¹¹²Pd Levels

E(level) [†]	J π [‡]	E(level) [†]	J π [‡]	E(level) [†]	J π [‡]	E(level) [†]	J π [‡]
0 [#]	0 ⁺	2199.6 <i>14</i>		3044.6 ^b <i>16</i>	(8 ⁻)	3949.4 ^c <i>16</i>	(11 ⁻)
348.0 [#] <i>8</i>	2 ⁺	2268.5 ^{&} <i>11</i>	(5 ⁻)	3049.2 [#] <i>13</i>	(10 ⁺)	4045.5 <i>18</i>	
736.0 [@] <i>8</i>	(2 ⁺)	2317.5 [#] <i>12</i>	(8 ⁺)	3084.3 [@] <i>13</i>	(9 ⁺)	4085.5 <i>18</i>	
882.5 [#] <i>9</i>	(4 ⁺)	2354.4 <i>12</i>		3136.5 ^{&} <i>12</i>	(9 ⁻)	4116.0 ^a <i>15</i>	(12 ⁻)
1095.6 [@] <i>9</i>	(3 ⁺)	2482.1 [@] <i>12</i>	(7 ⁺)	3174.5 <i>15</i>		4321.2 [#] <i>19</i>	(14 ⁺)
1361.8 [@] <i>10</i>	(4 ⁺)	2577.7 ^a <i>12</i>	(6 ⁻)	3260.1 <i>16</i>		4327.3 [@] <i>19</i>	(13 ⁺)
1422.2 <i>12</i>		2613.6 ^b <i>12</i>	(6 ⁻)	3263.4 ^c <i>12</i>	(9 ⁻)	4390.6 ^b <i>22</i>	(12 ⁻)
1550.0 [#] <i>11</i>	(6 ⁺)	2637.9 [@] <i>12</i>	(8 ⁺)	3326.6 [@] <i>12</i>	(10 ⁺)	4476.4 ^{&} <i>17</i>	(13 ⁻)
1714.6 <i>10</i>		2691.4 <i>12</i>		3446.7 ^a <i>13</i>	(10 ⁻)	4746.4 ^c <i>19</i>	(13 ⁻)
1758.4 [@] <i>10</i>	(5 ⁺)	2703.4 ^{&} <i>11</i>	(7 ⁻)	3597.2 [#] <i>17</i>	(12 ⁺)	4930.5 <i>21</i>	
1886.4 <i>12</i>		2710.1 ^c <i>12</i>	(7 ⁻)	3625.3 [@] <i>17</i>	(11 ⁺)	5221.2 [#] <i>22</i>	(16 ⁺)
2001.7 [@] <i>11</i>	(6 ⁺)	2754.4 <i>10</i>		3653.6 ^b <i>19</i>	(10 ⁻)		
2194.3 <i>10</i>		2897.7 ^a <i>11</i>	(8 ⁻)	3743.4 ^{&} <i>14</i>	(11 ⁻)		

[†] From a least-squares fit to E γ , assuming $\Delta E\gamma=1$.

[‡] From **2001Kr08** based on the observed band structures.

Band(A): Member of $\Delta J=2$ yrast band.

@ Band(B): Member of $\Delta J=1$ quasi-gamma band.

& Band(C): Member of $\Delta J=2$ band built on (5⁻) state; configuration= $\nu h_{11/2} \otimes (g_{7/2} d_{5/2})$, $\alpha=1$.

^a Band(c): Member of $\Delta J=2$ band built on (6⁻) state; configuration= $\nu h_{11/2} \otimes (g_{7/2} d_{5/2})$, $\alpha=0$.

^b Band(D): Member of $\Delta J=2$ band built on (6⁻) state; configuration= $\nu h_{11/2} \otimes (s_{1/2} d_{3/2})$, $\alpha=0$.

^c Band(d): Member of $\Delta J=2$ band built on (7⁻) state; configuration= $\nu h_{11/2} \otimes (s_{1/2} d_{3/2})$, $\alpha=1$.

γ (¹¹²Pd)

E γ [†]	E _i (level)	J π _i	E _f	J π _f	E γ [†]	E _i (level)	J π _i	E _f	J π _f
188	2897.7	(8 ⁻)	2710.1	(7 ⁻)	373 [‡]	4116.0	(12 ⁻)	3743.4	(11 ⁻)
194	2897.7	(8 ⁻)	2703.4	(7 ⁻)	388	736.0	(2 ⁺)	348.0	2 ⁺
213	1095.6	(3 ⁺)	882.5	(4 ⁺)	393	3084.3	(9 ⁺)	2691.4	
239	3136.5	(9 ⁻)	2897.7	(8 ⁻)	400	2754.4		2354.4	
284	2897.7	(8 ⁻)	2613.6	(6 ⁻)	411	3049.2	(10 ⁺)	2637.9	(8 ⁺)
297	3743.4	(11 ⁻)	3446.7	(10 ⁻)	416	2897.7	(8 ⁻)	2482.1	(7 ⁺)
309	2577.7	(6 ⁻)	2268.5	(5 ⁻)	426	3136.5	(9 ⁻)	2710.1	(7 ⁻)
310	3446.7	(10 ⁻)	3136.5	(9 ⁻)	431	3044.6	(8 ⁻)	2613.6	(6 ⁻)
320	2897.7	(8 ⁻)	2577.7	(6 ⁻)	433	3136.5	(9 ⁻)	2703.4	(7 ⁻)
348	348.0	2 ⁺	0	0 ⁺	435	2703.4	(7 ⁻)	2268.5	(5 ⁻)
359	1095.6	(3 ⁺)	736.0	(2 ⁺)	464	1886.4		1422.2	

Continued on next page (footnotes at end of table)

$^{208}\text{Pb}(^{18}\text{O},\text{X}\gamma)$ **2001Kr08** (continued) $\gamma(^{112}\text{Pd})$ (continued)

E_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π
479	1361.8	(4 ⁺)	882.5	(4 ⁺)	737	4390.6	(12 ⁻)	3653.6	(10 ⁻)
479	2194.3		1714.6		748	1095.6	(3 ⁺)	348.0	2 ⁺
485	2199.6		1714.6		768	2317.5	(8 ⁺)	1550.0	(6 ⁺)
486	2754.4		2268.5	(5 ⁻)	778	3260.1		2482.1	(7 ⁺)
534	882.5	(4 ⁺)	348.0	2 ⁺	791	1886.4		1095.6	(3 ⁺)
541	3625.3	(11 ⁺)	3084.3	(9 ⁺)	797	4746.4	(13 ⁻)	3949.4	(11 ⁻)
548	3597.2	(12 ⁺)	3049.2	(10 ⁺)	819	3136.5	(9 ⁻)	2317.5	(8 ⁺)
549	3446.7	(10 ⁻)	2897.7	(8 ⁻)	855	2613.6	(6 ⁻)	1758.4	(5 ⁺)
553	3263.4	(9 ⁻)	2710.1	(7 ⁻)	857	3174.5		2317.5	(8 ⁺)
560	2754.4		2194.3		871	4045.5		3174.5	
560	3263.4	(9 ⁻)	2703.4	(7 ⁻)	876	1758.4	(5 ⁺)	882.5	(4 ⁺)
602	3084.3	(9 ⁺)	2482.1	(7 ⁺)	885	4930.5		4045.5	
607	3743.4	(11 ⁻)	3136.5	(9 ⁻)	900	5221.2	(16 ⁺)	4321.2	(14 ⁺)
609	3653.6	(10 ⁻)	3044.6	(8 ⁻)	911	4085.5		3174.5	
618	1714.6		1095.6	(3 ⁺)	946	3263.4	(9 ⁻)	2317.5	(8 ⁺)
626	1361.8	(4 ⁺)	736.0	(2 ⁺)	979	1714.6		736.0	(2 ⁺)
635	3326.6	(10 ⁺)	2691.4		996	2754.4		1758.4	(5 ⁺)
636	2637.9	(8 ⁺)	2001.7	(6 ⁺)	1009	3326.6	(10 ⁺)	2317.5	(8 ⁺)
640	2001.7	(6 ⁺)	1361.8	(4 ⁺)	1014	1361.8	(4 ⁺)	348.0	2 ⁺
663	1758.4	(5 ⁺)	1095.6	(3 ⁺)	1028	2577.7	(6 ⁻)	1550.0	(6 ⁺)
667	1550.0	(6 ⁺)	882.5	(4 ⁺)	1074	1422.2		348.0	2 ⁺
669	4116.0	(12 ⁻)	3446.7	(10 ⁻)	1088	2637.9	(8 ⁺)	1550.0	(6 ⁺)
686	3949.4	(11 ⁻)	3263.4	(9 ⁻)	1099	2194.3		1095.6	(3 ⁺)
689	3326.6	(10 ⁺)	2637.9	(8 ⁺)	1141	2691.4		1550.0	(6 ⁺)
690	2691.4		2001.7	(6 ⁺)	1153	2703.4	(7 ⁻)	1550.0	(6 ⁺)
702	4327.3	(13 ⁺)	3625.3	(11 ⁺)	1160	2710.1	(7 ⁻)	1550.0	(6 ⁺)
724	2482.1	(7 ⁺)	1758.4	(5 ⁺)	1204	2754.4		1550.0	(6 ⁺)
724	4321.2	(14 ⁺)	3597.2	(12 ⁺)	1312	2194.3		882.5	(4 ⁺)
732	3049.2	(10 ⁺)	2317.5	(8 ⁺)	1386	2268.5	(5 ⁻)	882.5	(4 ⁺)
733	4476.4	(13 ⁻)	3743.4	(11 ⁻)	1472	2354.4		882.5	(4 ⁺)
736	736.0	(2 ⁺)	0	0 ⁺	1659	2754.4		1095.6	(3 ⁺)

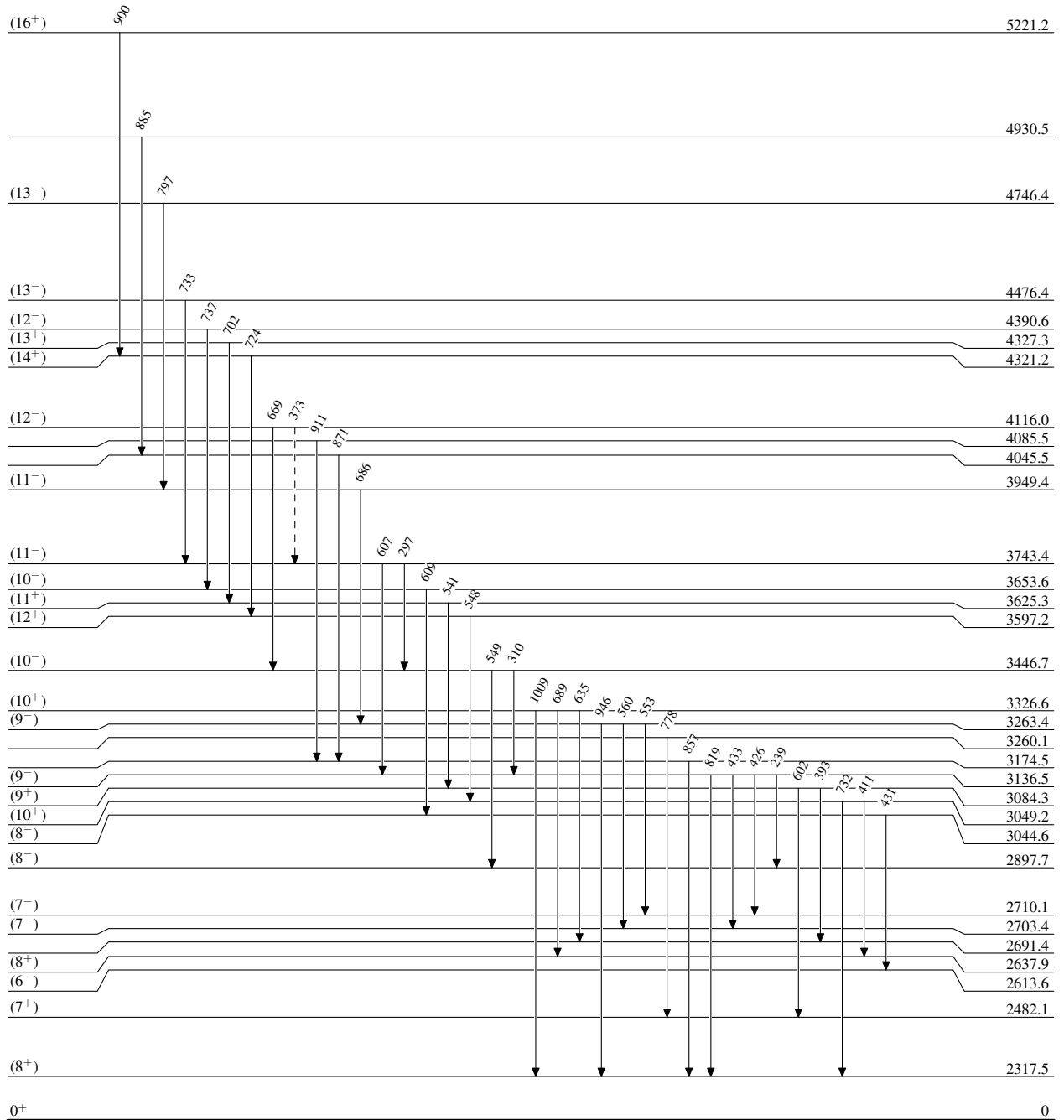
† From 2001Kr08.

‡ Placement of transition in the level scheme is uncertain.

$^{208}\text{Pb}(^{18}\text{O},\text{X}\gamma)$ 2001Kr08

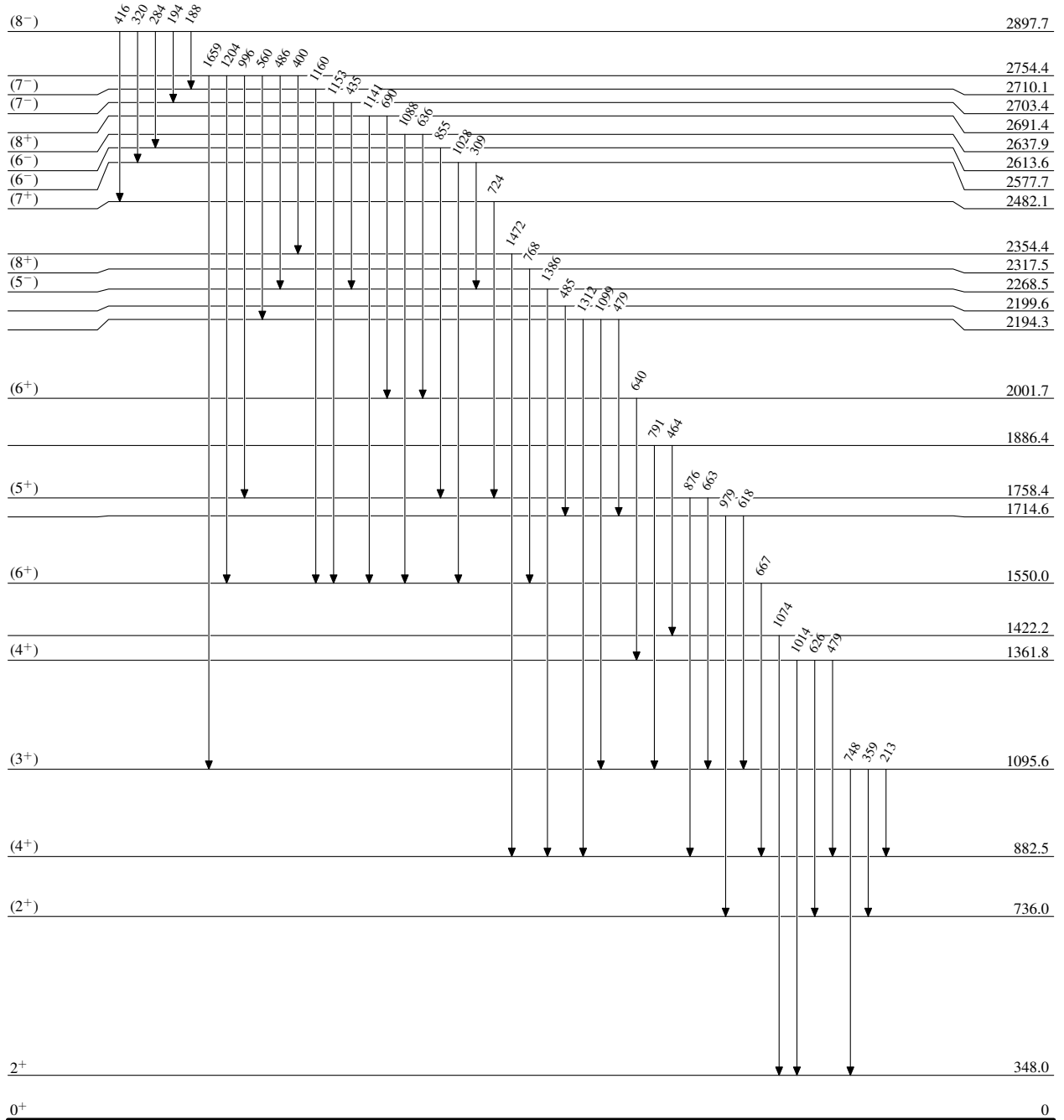
Legend

Level Scheme

-----▶ γ Decay (Uncertain) $^{112}_{46}\text{Pd}_{66}$

$^{208}\text{Pb}(^{18}\text{O},\text{X}\gamma)$ 2001Kr08

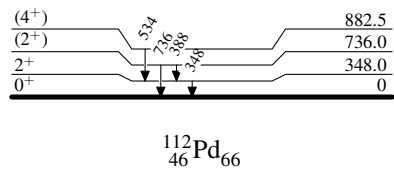
Level Scheme (continued)



$^{112}_{46}\text{Pd}_{66}$

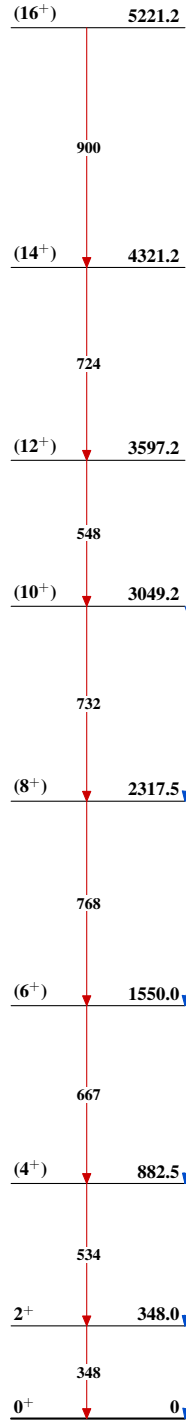
$^{208}\text{Pb}(^{18}\text{O},\text{X}\gamma)$ 2001Kr08

Level Scheme (continued)

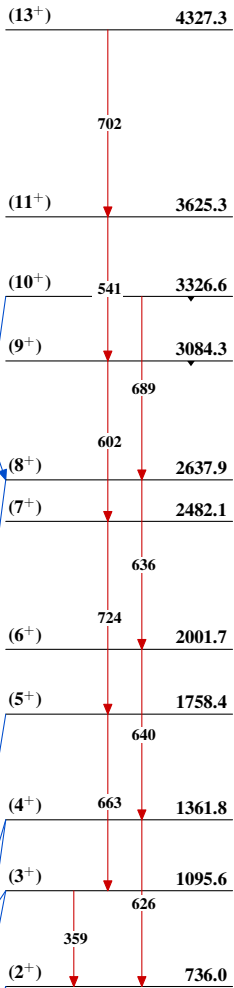


$^{208}\text{Pb}(^{18}\text{O},\text{X}\gamma)$ 2001Kr08

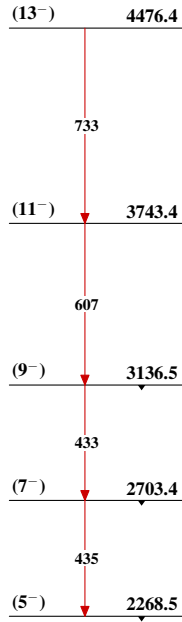
Band(A): Member of $\Delta J=2$
yrast band



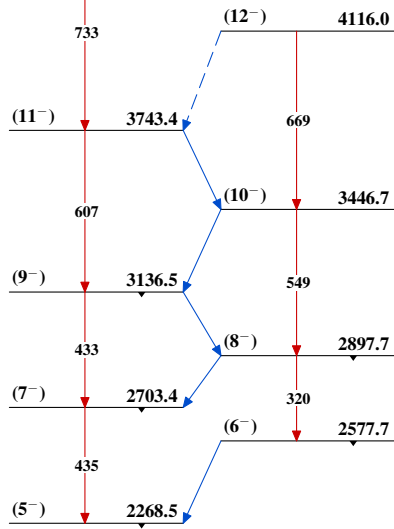
Band(B): Member of $\Delta J=1$
quasi-gamma band



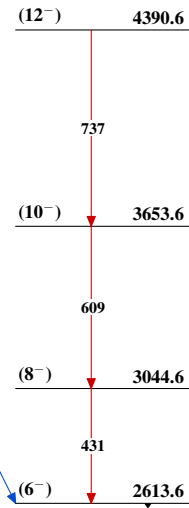
Band(C): Member of $\Delta J=2$
band built on (5⁻)
state; configuration=
 $\nu h_{11/2} \otimes (g_{7/2} d_{5/2}), \alpha=1$



Band(c): Member of $\Delta J=2$
band built on (6⁻)
state; configuration=
 $\nu h_{11/2} \otimes (g_{7/2} d_{5/2}), \alpha=0$



Band(D): Member of $\Delta J=2$
band built on (6⁻)
state; configuration=
 $\nu h_{11/2} \otimes (s_{1/2} d_{3/2}), \alpha=0$



Band(d): Member of $\Delta J=2$
band built on (7⁻)
state; configuration=
 $\nu h_{11/2} \otimes (s_{1/2} d_{3/2}), \alpha=1$

