

$^{238}\text{U}(\alpha, \text{F}\gamma)$ 2004Hu02

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	D. De Frenne	NDS 110, 1745 (2009)	31-Dec-2008

E=30MeV. Measured $E\gamma$, $I\gamma$, $\gamma\gamma$ with Rochester 4π , highly segmented heavy-ion detector array CHICO, in coincidence with the GAMMASPHERE detector array.

 ^{102}Zr Levels

E(level) [†]	$J^{\pi\ddagger}$	Comments
0.0 [#]	0 ⁺	
151.8 [#]	2 ⁺	
478.3 [#]	4 ⁺	
963.9 [#]	6 ⁺	
1242.4	(3 ⁺)	
1594.7 [#]	8 ⁺	
1660.1 [@]	(5 ⁻)	
1821.9 ^a	(4 ⁻)	
1932.6 ^{&}	(6 ⁻)	J^{π} : Adopted value is (8 ⁺) with different band interpretation.
1981.1 ^a	(5 ⁻)	
2090.7 [@]	(7 ⁻)	
2175.0 ^a	(6 ⁻)	
2351.9 [#]	10 ⁺	
2402.4 ^a	(7 ⁻)	
2464.9 ^{&}	(8 ⁻)	J^{π} : Adopted value is (10 ⁺) with different band interpretation.
2660.1 [@]	(9 ⁻)	
2664.6 ^a	(8 ⁻)	
2961.5 ^a	(9 ⁻)	
3134.2 ^{&}	(10 ⁻)	J^{π} : Adopted value is (12 ⁺) with different band interpretation.
3212.0 [#]	12 ⁺	
3293.0 ^a	(10 ⁻)	
3367.0 [@]	(11 ⁻)	
3925.7 ^{&}	(12 ⁻)	J^{π} : Adopted value is (14 ⁺) with different band interpretation.
4153.4 [#]	14 ⁺	
4200.8 [@]	(13 ⁻)	
4828.5 ^{&}	(14 ⁻)	J^{π} : Adopted value is (16 ⁺) with different band interpretation.
5156.3 [@]	(15 ⁻)	
5169.0 [#]	16 ⁺	
6267.1 [#]	18 ⁺	
7451.7 [#]	20 ⁺	

[†] From 2004Hu02, no uncertainties given by the authors.

[‡] From Adopted Levels, unless noted otherwise.

[#] Band(A): g.s. band.

[@] Band(B): $K^{\pi}=5^{-}$, $\alpha=1$. Possible configuration= $\nu 5/2[532]\otimes\nu 5/2[413]$.

[&] Band(b): $K^{\pi}=5^{-}$, $\alpha=0$. Possible configuration= $\nu 5/2[532]\otimes\nu 5/2[413]$.

^a Band(C): (4⁻) band. Possible configuration= $\nu 5/2[532]\otimes\nu 3/2[411]$.

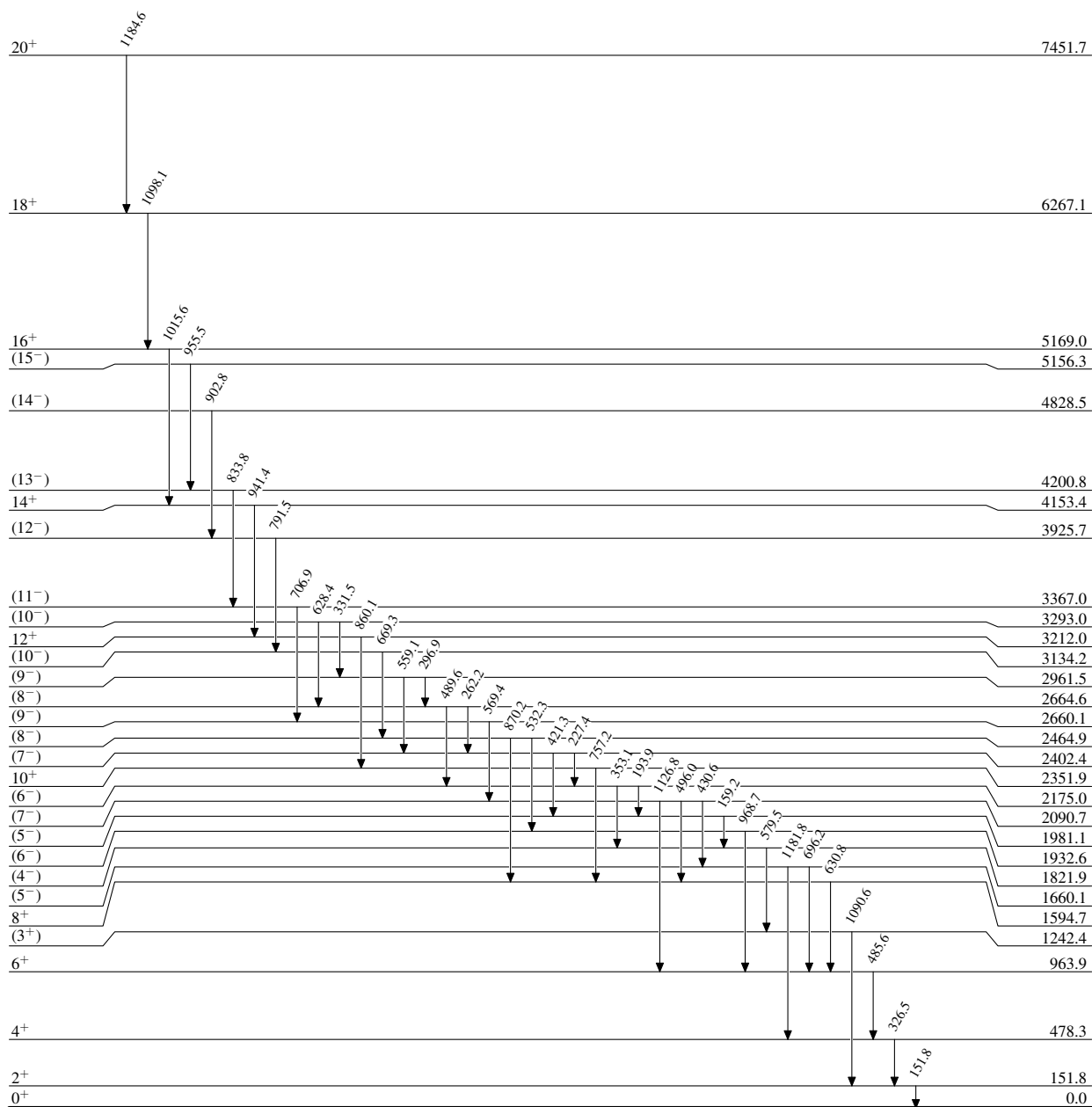
$^{238}\text{U}(\alpha, \text{F}\gamma)$ **2004Hu02 (continued)** $\gamma(^{102}\text{Zr})$

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
151.8	151.8	2 ⁺	0.0	0 ⁺	630.8	1594.7	8 ⁺	963.9	6 ⁺
159.2 [†]	1981.1	(5 ⁻)	1821.9	(4 ⁻)	669.3	3134.2	(10 ⁻)	2464.9	(8 ⁻)
193.9 [†]	2175.0	(6 ⁻)	1981.1	(5 ⁻)	696.2 [†]	1660.1	(5 ⁻)	963.9	6 ⁺
227.4 [†]	2402.4	(7 ⁻)	2175.0	(6 ⁻)	706.9	3367.0	(11 ⁻)	2660.1	(9 ⁻)
262.2 [†]	2664.6	(8 ⁻)	2402.4	(7 ⁻)	757.2	2351.9	10 ⁺	1594.7	8 ⁺
296.9 [†]	2961.5	(9 ⁻)	2664.6	(8 ⁻)	791.5	3925.7	(12 ⁻)	3134.2	(10 ⁻)
326.5	478.3	4 ⁺	151.8	2 ⁺	833.8	4200.8	(13 ⁻)	3367.0	(11 ⁻)
331.5 [†]	3293.0	(10 ⁻)	2961.5	(9 ⁻)	860.1	3212.0	12 ⁺	2351.9	10 ⁺
353.1 [†]	2175.0	(6 ⁻)	1821.9	(4 ⁻)	870.2 [†]	2464.9	(8 ⁻)	1594.7	8 ⁺
421.3 [†]	2402.4	(7 ⁻)	1981.1	(5 ⁻)	902.8	4828.5	(14 ⁻)	3925.7	(12 ⁻)
430.6	2090.7	(7 ⁻)	1660.1	(5 ⁻)	941.4	4153.4	14 ⁺	3212.0	12 ⁺
485.6	963.9	6 ⁺	478.3	4 ⁺	955.5	5156.3	(15 ⁻)	4200.8	(13 ⁻)
489.6 [†]	2664.6	(8 ⁻)	2175.0	(6 ⁻)	968.7 [†]	1932.6	(6 ⁻)	963.9	6 ⁺
496.0 [†]	2090.7	(7 ⁻)	1594.7	8 ⁺	1015.6	5169.0	16 ⁺	4153.4	14 ⁺
532.3	2464.9	(8 ⁻)	1932.6	(6 ⁻)	1090.6 [†]	1242.4	(3 ⁺)	151.8	2 ⁺
559.1 [†]	2961.5	(9 ⁻)	2402.4	(7 ⁻)	1098.1	6267.1	18 ⁺	5169.0	16 ⁺
569.4	2660.1	(9 ⁻)	2090.7	(7 ⁻)	1126.8 [†]	2090.7	(7 ⁻)	963.9	6 ⁺
579.5 [†]	1821.9	(4 ⁻)	1242.4	(3 ⁺)	1181.8 [†]	1660.1	(5 ⁻)	478.3	4 ⁺
628.4 [†]	3293.0	(10 ⁻)	2664.6	(8 ⁻)	1184.6	7451.7	20 ⁺	6267.1	18 ⁺

[†] From level-energy difference; not quoted by 2004Hu02. No uncertainties given by the authors.

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Level Scheme

 $^{102}_{40}\text{Zr}_{62}$

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