

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

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2006

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

 ^{101}Zr Levels

E(level)	J^π	E(level)	J^π	E(level)	J^π	E(level)	J^π
0.0 [†]	3/2 ⁺	858.6 [‡]	13/2 ⁺	2153.4 [#]	21/2 ⁻	4166.6 [@]	31/2 ⁻
98.0 [‡]	5/2 ⁺	869.9 [#]	13/2 ⁻	2330.4 [@]	23/2 ⁻	4294.0 [†]	31/2 ⁺
216.8 [#]	5/2 ⁻	1048.1 [@]	15/2 ⁻	2488.9 [†]	23/2 ⁺	4877.8 [‡]	33/2 ⁺
231.9 [†]	7/2 ⁺	1120.5 [†]	15/2 ⁺	2944.7 [‡]	25/2 ⁺	5165.3 [#]	33/2 ⁻
320.9 [@]	7/2 ⁻	1433.3 [#]	17/2 ⁻	3024.2 [#]	25/2 ⁻	5256.8 [@]	35/2 ⁻
408.9 [‡]	9/2 ⁺	1437.5 [‡]	17/2 ⁺	3183.3 [@]	27/2 ⁻	5358.1 [†]	35/2 ⁺
468.0 [#]	9/2 ⁻	1617.5 [@]	19/2 ⁻	3337.0 [†]	27/2 ⁺	6004.6 ^{?‡}	37/2 ⁺
611.0 [†]	11/2 ⁺	1749.7 [†]	19/2 ⁺	3859.8 [‡]	29/2 ⁺	6412.3 [@]	39/2 ⁻
619.9 [@]	11/2 ⁻	2134.9 [‡]	21/2 ⁺	4037.4 [#]	29/2 ⁻	6506.8 ^{?†}	39/2 ⁺

[†] Band(A): $\nu 3/2[411]$, $\alpha=-1/2$.

[‡] Band(a): $\nu 3/2[411]$, $\alpha=+1/2$.

[#] Band(B): $\nu 5/2[532]$, $\alpha=+1/2$.

[@] Band(b): $\nu 5/2[532]$, $\alpha=-1/2$.

 $\gamma(^{101}\text{Zr})$

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
98.0 [†]	98.0	5/2 ⁺	0.0	3/2 ⁺	385.2 [†]	1433.3	17/2 ⁻	1048.1	15/2 ⁻
104.1 [†]	320.9	7/2 ⁻	216.8	5/2 ⁻	401.9	869.9	13/2 ⁻	468.0	9/2 ⁻
118.8 [†]	216.8	5/2 ⁻	98.0	5/2 ⁺	428.2	1048.1	15/2 ⁻	619.9	11/2 ⁻
133.9 [†]	231.9	7/2 ⁺	98.0	5/2 ⁺	449.7	858.6	13/2 ⁺	408.9	9/2 ⁺
147.1 [†]	468.0	9/2 ⁻	320.9	7/2 ⁻	509.5	1120.5	15/2 ⁺	611.0	11/2 ⁺
151.9 [†]	619.9	11/2 ⁻	468.0	9/2 ⁻	563.4	1433.3	17/2 ⁻	869.9	13/2 ⁻
177.0 [†]	408.9	9/2 ⁺	231.9	7/2 ⁺	569.4	1617.5	19/2 ⁻	1048.1	15/2 ⁻
178.2 [†]	1048.1	15/2 ⁻	869.9	13/2 ⁻	578.9	1437.5	17/2 ⁺	858.6	13/2 ⁺
202.1 [†]	611.0	11/2 ⁺	408.9	9/2 ⁺	629.2	1749.7	19/2 ⁺	1120.5	15/2 ⁺
216.8 [†]	216.8	5/2 ⁻	0.0	3/2 ⁺	697.4	2134.9	21/2 ⁺	1437.5	17/2 ⁺
222.9 [†]	320.9	7/2 ⁻	98.0	5/2 ⁺	712.9	2330.4	23/2 ⁻	1617.5	19/2 ⁻
231.9	231.9	7/2 ⁺	0.0	3/2 ⁺	720.1	2153.4	21/2 ⁻	1433.3	17/2 ⁻
236.1 [†]	468.0	9/2 ⁻	231.9	7/2 ⁺	739.2	2488.9	23/2 ⁺	1749.7	19/2 ⁺
247.6 [†]	858.6	13/2 ⁺	611.0	11/2 ⁺	809.8	2944.7	25/2 ⁺	2134.9	21/2 ⁺
250.0 [†]	869.9	13/2 ⁻	619.9	11/2 ⁻	848.1	3337.0	27/2 ⁺	2488.9	23/2 ⁺
251.2	468.0	9/2 ⁻	216.8	5/2 ⁻	852.9	3183.3	27/2 ⁻	2330.4	23/2 ⁻
261.9 [†]	1120.5	15/2 ⁺	858.6	13/2 ⁺	870.8	3024.2	25/2 ⁻	2153.4	21/2 ⁻
299.0	619.9	11/2 ⁻	320.9	7/2 ⁻	915.1	3859.8	29/2 ⁺	2944.7	25/2 ⁺
310.9	408.9	9/2 ⁺	98.0	5/2 ⁺	957.0	4294.0	31/2 ⁺	3337.0	27/2 ⁺
379.1	611.0	11/2 ⁺	231.9	7/2 ⁺	983.3	4166.6	31/2 ⁻	3183.3	27/2 ⁻

Continued on next page (footnotes at end of table)

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

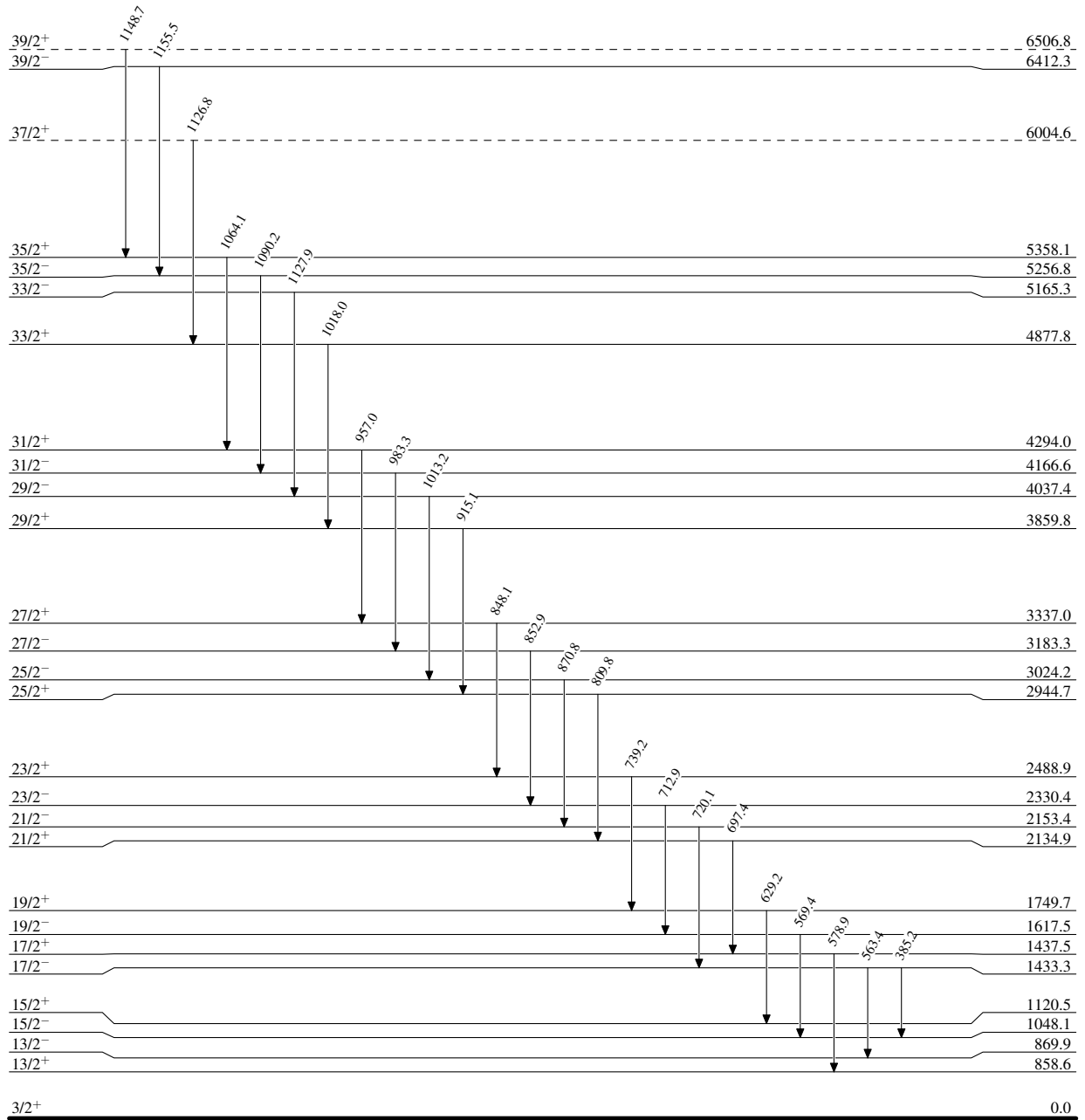
 $\gamma(^{101}\text{Zr})$ (continued)

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
1013.2	4037.4	29/2 ⁻	3024.2	25/2 ⁻	1126.8	6004.6?	37/2 ⁺	4877.8	33/2 ⁺
1018.0	4877.8	33/2 ⁺	3859.8	29/2 ⁺	1127.9	5165.3	33/2 ⁻	4037.4	29/2 ⁻
1064.1	5358.1	35/2 ⁺	4294.0	31/2 ⁺	1148.7	6506.8?	39/2 ⁺	5358.1	35/2 ⁺
1090.2	5256.8	35/2 ⁻	4166.6	31/2 ⁻	1155.5	6412.3	39/2 ⁻	5256.8	35/2 ⁻

[†] From level-energy difference, E_γ not quoted by [2004Hu02](#).

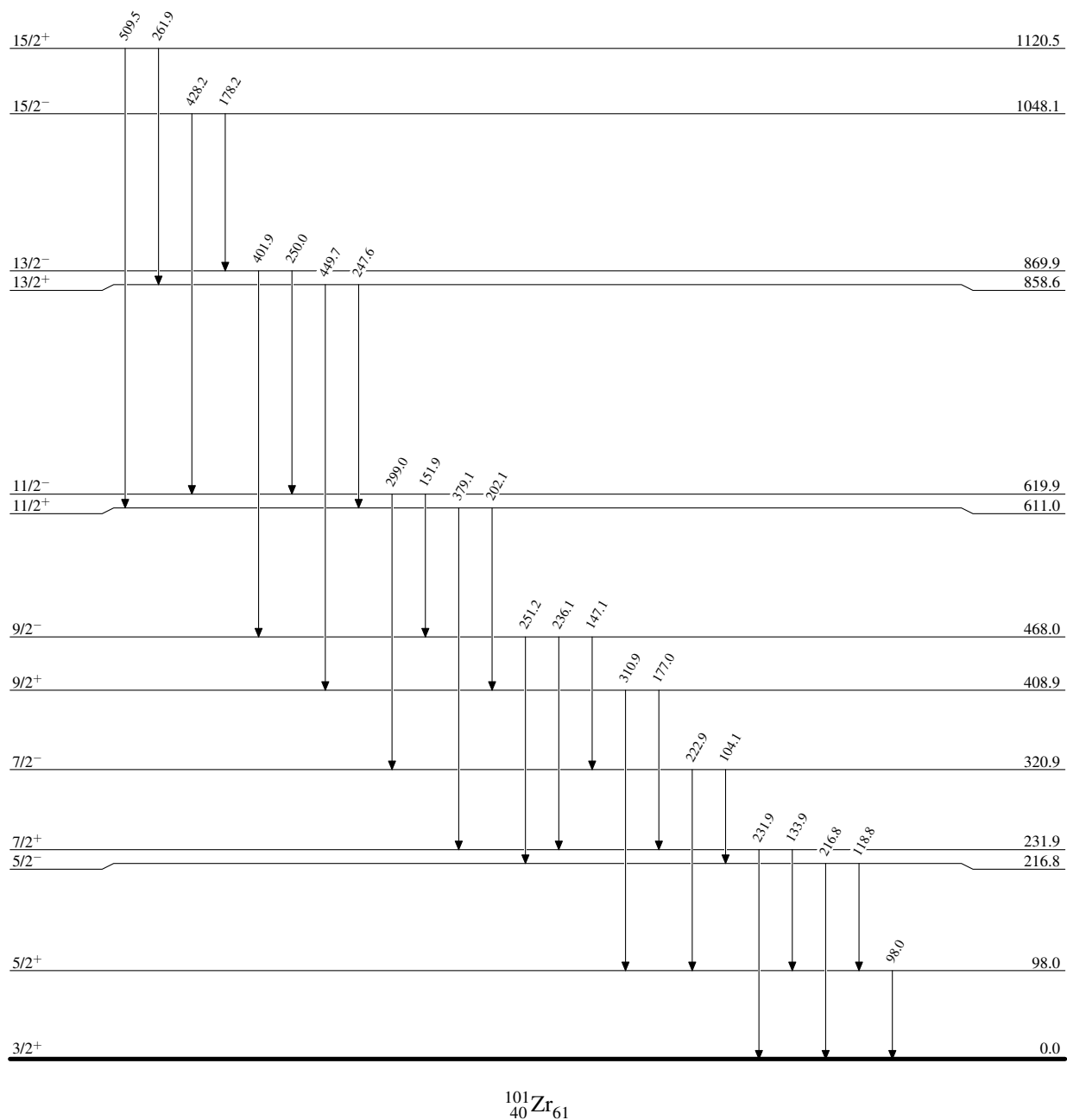
$^{238}\text{U}(\alpha, \text{F}\gamma)$ 2004Hu02

Level Scheme



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

Level Scheme (continued)

 $^{101}_{40}\text{Zr}_{61}$

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