

$^{24}\text{Mg}(^{24}\text{Mg},\alpha 2p\gamma)$ 2008Sa04

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen [#] and Balraj Singh		NDS 135, 1 (2016)	31-May-2016

2008Sa04 (also 2008Sa44): E=91.72 MeV (for ON resonance), 92.62 MeV (for OFF resonance) beam provided by Legnaro XTU Tandem accelerator. Target of a $40 \mu\text{g}/\text{cm}^2$ ^{24}Mg film on a $15 \mu\text{g}/\text{cm}^2$ carbon backing. Charged particles were detected with the EUCLIDES detector composed of 40 silicon detectors $\Delta\text{E-E}$ and γ -rays were detected with the GASP array of 40 HPGe detectors. Measured E_γ , $\gamma\gamma$ -coin, particle- γ coin. Deduced levels from the decay of a narrow 36^+ resonance in $^{24}\text{Mg}(^{24}\text{Mg},\text{X})$ system at 45.7 MeV (c.m.) with $\Gamma=170$ keV.

Placement of γ rays from 2008Sa04 is based on Adopted Levels and Gammas of ^{42}Ca . 2008Sa04 reported 24 γ rays from the decay of a $J^\pi=36^+$ resonance in $^{24}\text{Mg}+^{24}\text{Mg}$ system.

 ^{42}Ca Levels

E(level)	J^π [†]	E(level)	J^π [†]	E(level)	J^π [†]	E(level)	J^π [†]
0.0	0^+	4718	6^+	6554	9^-	9786	($9^-,11$)
1525	2^+	5491	6^-	7282	9^-	10169	($10,12^+$)
2752	4^+	5744	7^-	7368	10^-		
3189	6^+	6145	7^-	8297	11^-		
4100	5^-	6409	8^-	9015	10^+		

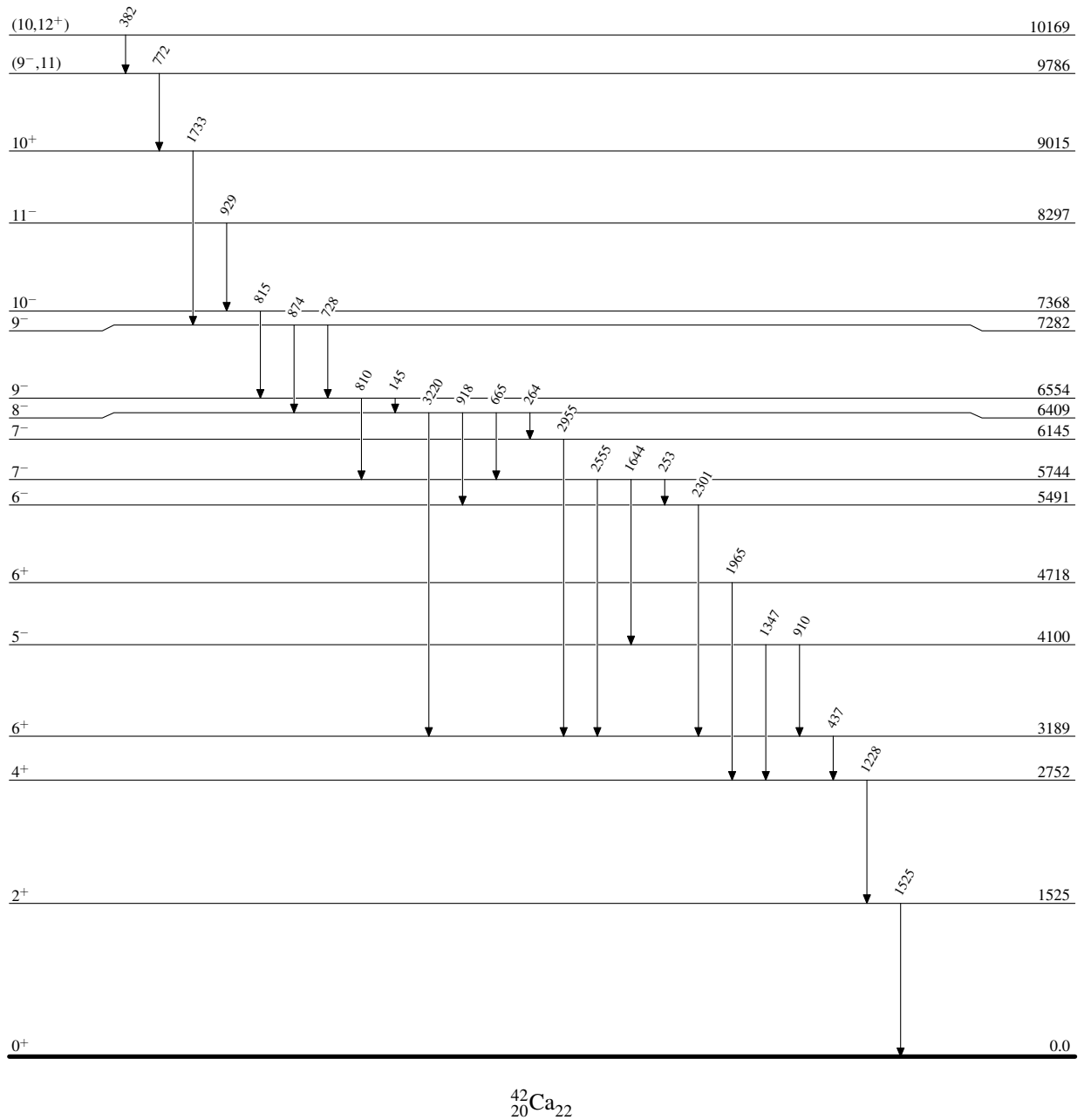
[†] From Adopted Levels.

 $\gamma(^{42}\text{Ca})$

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
145	6554	9^-	6409	8^-	918	6409	8^-	5491	6^-
253	5744	7^-	5491	6^-	929	8297	11^-	7368	10^-
264	6409	8^-	6145	7^-	1228	2752	4^+	1525	2^+
382	10169	($10,12^+$)	9786	($9^-,11$)	1347	4100	5^-	2752	4^+
437	3189	6^+	2752	4^+	1525	1525	2^+	0.0	0^+
665	6409	8^-	5744	7^-	1644	5744	7^-	4100	5^-
728	7282	9^-	6554	9^-	1733	9015	10^+	7282	9^-
772	9786	($9^-,11$)	9015	10^+	1965	4718	6^+	2752	4^+
810	6554	9^-	5744	7^-	2301	5491	6^-	3189	6^+
815	7368	10^-	6554	9^-	2555	5744	7^-	3189	6^+
874	7282	9^-	6409	8^-	2955	6145	7^-	3189	6^+
910	4100	5^-	3189	6^+	3220	6409	8^-	3189	6^+

$^{24}\text{Mg}(^{24}\text{Mg},\alpha 2p\gamma)$ 2008Sa04

Level Scheme

 $^{42}\text{Ca}_{22}$