^{40}Ca(^{40}Ca,2pnγ) 1994Gr01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	30-Sep-2020

1994Gr01: E=128 MeV. The EUROGAM array coupled with a recoil-separator used to study γ rays from ^{77}Sr. Measured γ, recoil-γ coin, $\gamma\gamma$, higher fold $\gamma\gamma$, $\gamma\gamma(\theta)$ (DCO). The details of these data are not yet available.
Earlier work:
1982Li08: E=117 MeV. Measured γ, $\gamma\gamma$, $\gamma(\theta)$. First five positive parity states are found in this work.

^{77}Sr Levels

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
0.0#	5/2+	1480.7@ 11	(15/2+)	3561.5@ 14	(23/2+)	6518.1a 22	(29/2−)
186.0@ 7	(7/2+)	1627.2& 11	(11/2−)	3950.1a 17	(21/2−)	6678.2# 21	(33/2+)
418.2# 7	(9/2+)	1883.9# 12	(17/2+)	4050.2# 15	(25/2+)	8183.3# 23	(37/2+)
612.8& 8	(3/2−)	1999.1a 12	(13/2−)	4567.1& 18	(23/2−)	9882# 3	(41/2+)
725.9@ 9	(11/2+)	2432.2@ 13	(19/2+)	4770.5@ 18	(27/2+)	11797# 3	(45/2+)
780.8a 9	(5/2−)	2437.1& 13	(15/2−)	5152.1a 20	(25/2−)	13943# 3	(49/2+)
1010.6& 9	(7/2−)	2891.1a 14	(17/2−)	5315.2# 18	(29/2+)		
1051.7# 10	(13/2+)	2894.0# 14	(21/2+)	5840.1& 21	(27/2−)		
1289.9a 10	(9/2−)	3424.1& 15	(19/2−)	6208.5@ 20	(31/2+)		

† From least-squares fit to Eγ data, assuming 1 keV uncertainty for Eγ.
‡ From $\gamma\gamma(\theta)$ (DCO). But the details of such measurements are not available.
# Band(A): K^π=5/2+,α=+1/2. Possible configuration=ν5/2[422].
@ Band(a): K^π=5/2+,α=−1/2.
& Band(B): K^π=(3/2−),α=−1/2. Possible configuration=ν3/2[301].
a Band(b): K^π=(3/2−),α=+1/2.

γ(^{77}Sr)

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
168	780.8	(5/2−)	612.8	(3/2−)	540	725.9	(11/2+)	186.0	(7/2+)
186	186.0	(7/2+)	0.0	5/2+	548	2432.2	(19/2+)	1883.9	(17/2+)
230	1010.6	(7/2−)	780.8	(5/2−)	592†	1010.6	(7/2−)	418.2	(9/2+)
232	418.2	(9/2+)	186.0	(7/2+)	595†	780.8	(5/2−)	186.0	(7/2+)
279	1289.9	(9/2−)	1010.6	(7/2−)	613	612.8	(3/2−)	0.0	5/2+
308	725.9	(11/2+)	418.2	(9/2+)	617	1627.2	(11/2−)	1010.6	(7/2−)
326	1051.7	(13/2+)	725.9	(11/2+)	633	1051.7	(13/2+)	418.2	(9/2+)
337	1627.2	(11/2−)	1289.9	(9/2−)	668	3561.5	(23/2+)	2894.0	(21/2+)
372	1999.1	(13/2−)	1627.2	(11/2−)	709	1999.1	(13/2−)	1289.9	(9/2−)
398	1010.6	(7/2−)	612.8	(3/2−)	755	1480.7	(15/2+)	725.9	(11/2+)
403	1883.9	(17/2+)	1480.7	(15/2+)	810	2437.1	(15/2−)	1627.2	(11/2−)
418	418.2	(9/2+)	0.0	5/2+	832	1883.9	(17/2+)	1051.7	(13/2+)
429	1480.7	(15/2+)	1051.7	(13/2+)	892	2891.1	(17/2−)	1999.1	(13/2−)
438	2437.1	(15/2−)	1999.1	(13/2−)	952	2432.2	(19/2+)	1480.7	(15/2+)
454	2891.1	(17/2−)	2437.1	(15/2−)	987	3424.1	(19/2−)	2437.1	(15/2−)
462	2894.0	(21/2+)	2432.2	(19/2+)	1010	2894.0	(21/2+)	1883.9	(17/2+)
489	4050.2	(25/2+)	3561.5	(23/2+)	1059	3950.1	(21/2−)	2891.1	(17/2−)
509	1289.9	(9/2−)	780.8	(5/2−)	1129	3561.5	(23/2+)	2432.2	(19/2+)
533	3424.1	(19/2−)	2891.1	(17/2−)	1143	4567.1	(23/2−)	3424.1	(19/2−)

Continued on next page (footnotes at end of table)

^{40}Ca(^{40}Ca,2pnγ) 1994Gr01 (continued)

$\gamma(^{77}Sr)$ (continued)

E_γ	E_i(level)	J_i^π	E_f	J_f^π	E_γ	E_i(level)	J_i^π	E_f	J_f^π
1156	4050.2	$(25/2^+)$	2894.0	$(21/2^+)$	1366	6518.1	$(29/2^-)$	5152.1	$(25/2^-)$
1202	5152.1	$(25/2^-)$	3950.1	$(21/2^-)$	1438	6208.5	$(31/2^+)$	4770.5	$(27/2^+)$
1209	4770.5	$(27/2^+)$	3561.5	$(23/2^+)$	1505	8183.3	$(37/2^+)$	6678.2	$(33/2^+)$
1265	5315.2	$(29/2^+)$	4050.2	$(25/2^+)$	1699	9882	$(41/2^+)$	8183.3	$(37/2^+)$
1273	5840.1	$(27/2^-)$	4567.1	$(23/2^-)$	1915	11797	$(45/2^+)$	9882	$(41/2^+)$
1363	6678.2	$(33/2^+)$	5315.2	$(29/2^+)$	2146	13943	$(49/2^+)$	11797	$(45/2^+)$

† DCO ratio consistent with mult=dipole, but DCO values are not listed by 1994Gr01.

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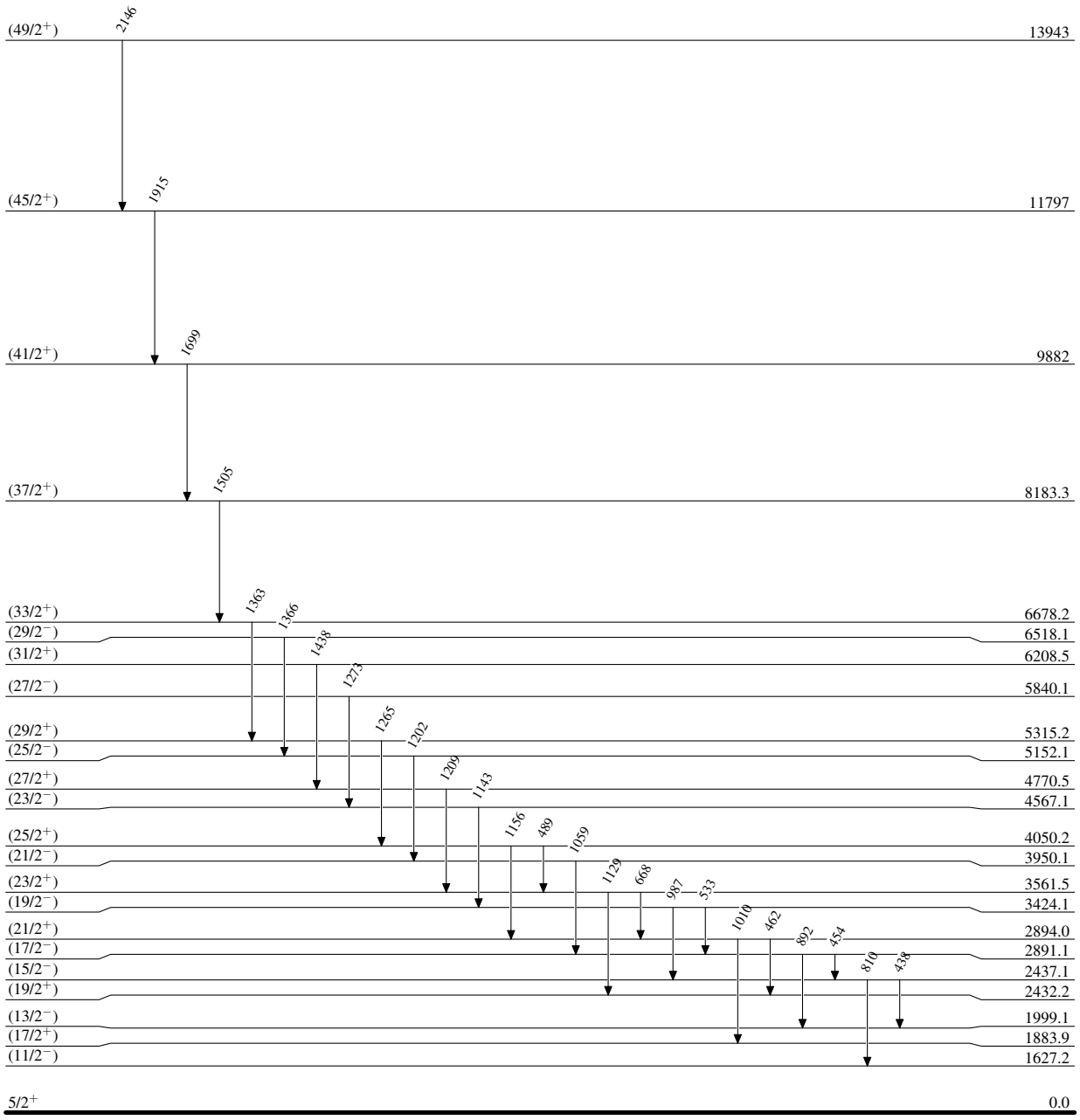
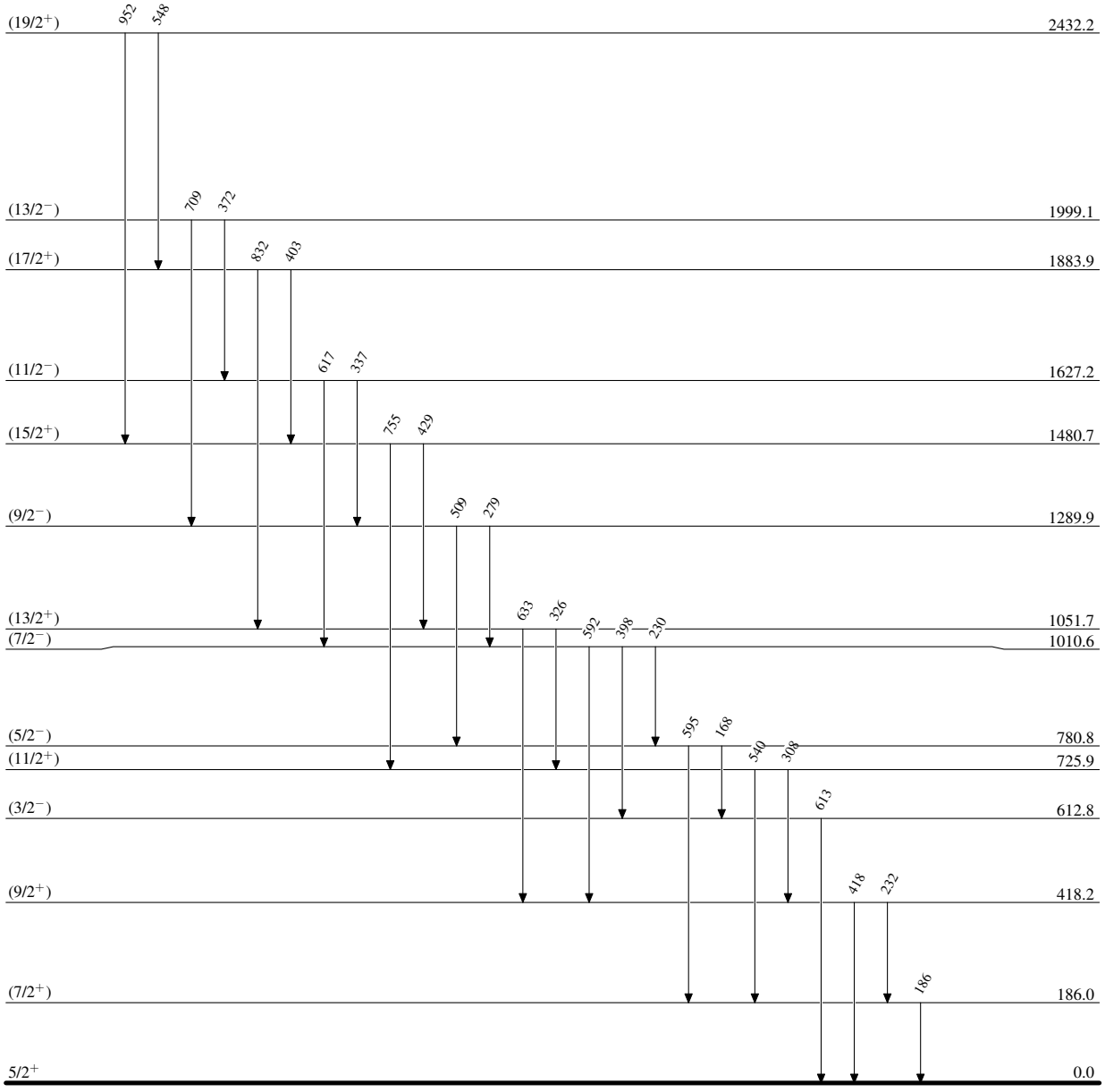
Level Scheme



$^{77}_{38}Sr_{39}$

^{40}Ca(^{40}Ca,2pnγ) 1994Gr01

Level Scheme (continued)



$^{77}_{38}Sr_{39}$

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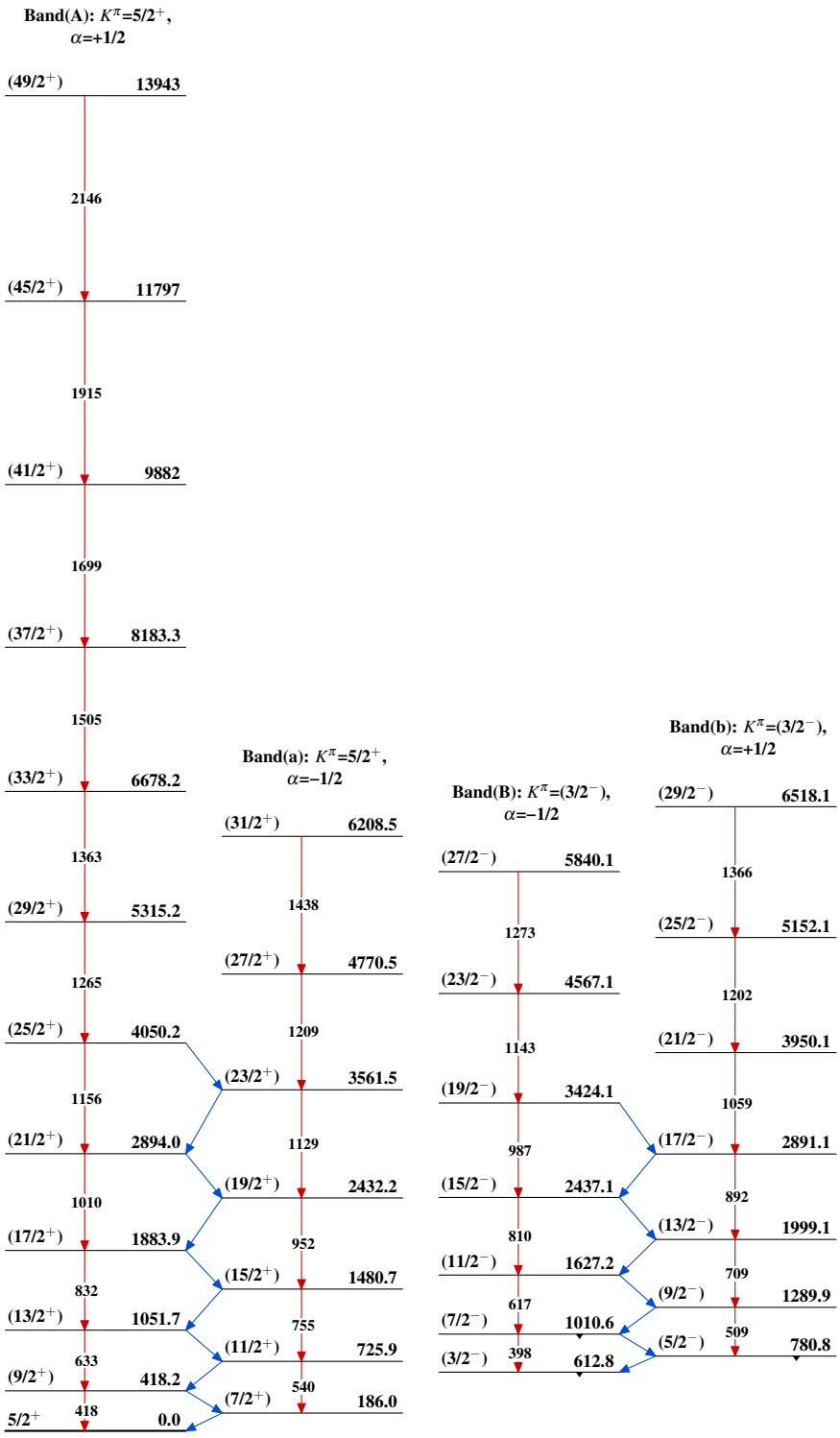

$^{77}_{38}Sr_{39}$