

$^{44}\text{Ca}(\alpha,^2\text{He})$ 1990Fi07

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. -c. Wu	NDS 91, 1 (2000)	15-Jul-2000

E=55.3 MeV, ^{44}Ca target enriched to 97.8%.

Unbound ^2He detected by measuring the breakup coincident protons.

Measured $\sigma(E,\theta)$ at four angles from $\theta=17.5^\circ$ to 40° ; DWBA analysis.

 ^{46}Ca Levels

E(level)	J^π	L	Comments
0.0	0^+	0	Configuration $(\nu f_{7/2})^{-2}$.
1350 50	2^+	2	Configuration $(\nu f_{7/2})^{-2}$.
2580 50	4^+	4	Configuration $(\nu f_{7/2})^{-2}$.
2970 50	6^+	6	Configuration $(\nu f_{7/2})^{-2}$.
4730 50	$6^+, 5^-$	6,5	Configuration $(\nu f_{7/2})^{-1}(\nu f_{5/2})^{-1}$ or $(\nu f_{7/2})^{-1}(\nu d_{5/2})^{-1}$.
7060 50	$5^-, 6^+$	5,6	Configuration $(\nu f_{7/2})^{-1}(\nu d_{5/2})^{-1}$ or $(\nu f_{7/2})^{-1}(\nu f_{5/2})^{-1}$.
7660 50	5^-	5	Configuration $(\nu f_{5/2})^{-1}(\nu d_{5/2})^{-1}$.
8380 50	7^-	7	Configuration $(\nu f_{7/2})^{-1}(\nu g_{9/2})^{-1}$.
8770 50	7^-	7	Configuration $(\nu f_{5/2})^{-1}(\nu g_{9/2})^{-1}$.
9070 50	5^-	5	Configuration $(\nu p_{1/2})^{-1}(\nu g_{9/2})^{-1}$.
9680 50	$5^-, 6^+, 8^+$	5,6,8	Configuration $(\nu p_{1/2})^{-1}(\nu g_{9/2})^{-1}$, $(\nu g_{9/2})^{-1}(\nu d_{5/2})^{-1}$ or $(\nu g_{9/2})^{-2}$.
12660 50	$6^+, 8^+, 7^-$	6,8,7	Configuration $(\nu g_{9/2})^{-1}(\nu d_{5/2})^{-1}$ $(\nu g_{9/2})^{-2}$ or $(\nu f_{5/2})^{-1}(\nu g_{9/2})^{-1}$.
13130 50	$6^+, 8^+, 7^-$	6,8,7	Configuration $(\nu g_{9/2})^{-1}(\nu d_{5/2})^{-1}$ $(\nu g_{9/2})^{-2}$ or $(\nu f_{5/2})^{-1}(\nu g_{9/2})^{-1}$.