$^{44}\text{Ca}(\pi^+,\pi^{+\prime}),(\pi^-,\pi^{-\prime})$　　**1987Mo25,1984Bo02**

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jun Chen, Balraj Singh and John A. Cameron	NDS 112, 2357 (2011)	31-Jul-2011

1987Mo25: $(\pi^+,\pi^{+\prime}),(\pi^-,\pi^{-\prime})$ E=180 MeV pion beam produced at the Los Alamos Clinton P. Anderson Meson Physics Facility (LAMPF) Target of enriched metallic calcium (95.35% ^{44}Ca). Energetic Pion Channel and Spectrometer (EPICS), FWHM=150 keV. Measured $\sigma(E,\theta)$. Deduced neutron, proton matrix elements. Distorted-Wave Impulse- Approximation (DWIA) calculations.

1984Bo02: $(\pi^+,\pi^{+\prime}),(\pi^-,\pi^{-\prime})$ E=116, 118, 292.5 MeV. Data obtained using EPICS at LAMPF. Measured $\sigma(E,\theta)$.

1981Bo26: $(\pi^+,\pi^{+\prime}),(\pi^-,\pi^{-\prime})$ E=180 MeV Data obtained using EPICS at LAMPF. Measured $\sigma(E,\theta)$. Deduced neutron, proton matrix elements. DWIA analysis.

^{44}Ca Levels

E(level)[†]	J^{π}[†]	L[†]	B(EL)[#]	Comments
0	0^+			J^{π}: from Adopted Levels.
1157	2^+	2	0.043 8	B(E2)=0.081 15 from M_n, 0.061 7 from M_0.
1880				
2280	4^+	4	0.00039 7	B(E4)=0.00045 8 from M_n, 0.00042 5 from M_0.
2660	2^+	2	0.0055 10	B(E2)=0.0026 5 from M_n, 0.0039 4 from M_0.
3308	3^-	3	0.0098 20	B(E3)=0.0111 22 from M_n, 0.0104 14 from M_0.
4400[‡]	3^-[‡]	3[‡]		
5030[‡]	3^-[‡]	3[‡]		

[†] From 1987Mo25, unless otherwise noted.
[‡] From 1984Bo02 only.
[#] From M_p matrix element of 1987Mo25. Values deduced from neutron matrix elements and isoscalar matrix elements are given under comments.