

${}^{48}\text{Ca}(e,e'p)$ E=440 MeV 2001Kr01

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Full Evaluation	T. W. Burrows	NDS 108, 923 (2007)	20-Feb-2007

Measured momentum distributions with the coincidence setup At NIKHEF. 95.2% enriched ${}^{48}\text{Ca}$ foils. Reduced cross sections obtained under parallel kinematic conditions In the range between -60 and 260 MeV/C; outgoing proton kinetic energy of 100 MeV. Coulomb Distorted Wave Impulse Approximation (CDWIA) calculations.

Compared spectroscopic factors to those of 1985Ba14 from $(d,{}^3\text{He})$. Using original analysis of 1985Ba14, $S(d,{}^3\text{He})/S(e,e'p)$ was ≈ 1.5 . After reanalysis of the data from 1985Ba14, $S(d,{}^3\text{He})/S(e,e'p)$ was ≈ 1.0 except for two points At 3.42 and 6.87 MeV. 2001Kr01 suggest that the deviation and the relatively small rms radius (3.39 fm 9) for transition leading to the 3.42 MeV state might indicate some unresolved $1f_{7/2}$ strength At 3.4 MeV and that the deviation for the very weak transition At 6.87 MeV May Be due to the uncertainty In the rms radius (3.41 fm 14) that was not well determined In the $(e,e'p)$ experiment.

 ${}^{47}\text{K}$ Levels

E(level)	J^π^\dagger	S	E(level)	J^π^\dagger	S	E(level)	J^π^\dagger	S
0.0	$1/2^+ \ddagger$	1.07 7	3.95×10^3	$3/2^+$	0.323 27	6.87×10^3	$5/2^+$	0.070 7
0.36×10^3	$3/2^+ \ddagger$	2.26 16	5.24×10^3	$5/2^+$	0.288 21	7.81×10^3	$5/2^+$	0.434 32
3.42×10^3	$5/2^+ \ddagger$	0.683 49	5.49×10^3	$5/2^+$	0.746 52	8.13×10^3	$5/2^+$	0.228 19
3.85×10^3	$1/2^+$	0.167 14	6.51×10^3	$5/2^+$	0.160 14			

† Assumed for extraction of the spectroscopic factor.

‡ See 2006Ga31 for a study of the systematics of the $d_{3/2}-s_{1/2}$ proton hole splitting In the odd-mass K, Cl, and P isotopes for $N=20-28$ and $d_{5/2}-d_{3/2}$ for ${}^{39}\text{K}$ and ${}^{47}\text{K}$.