

$^{48}\text{Ca}(\text{e},\text{e}'\text{p}),(\text{p},2\text{p})$  2001Kr01,2023No05

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	S. Ota and E. A. Mccutchan		NDS 203,1 (2025)	1-Apr-2025

**2001Kr01:** (e,e'p) reaction. 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**,  $S(\text{d},^3\text{He})/S(\text{e},\text{e}'\text{p})$  was  $\approx 1.5$ . After reanalysis of the data from **1985Ba14**,  $S(\text{d},^3\text{He})/S(\text{e},\text{e}'\text{p})$  was  $\approx 1.0$  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.

**2023No05:** (p,2p) reaction.  $E(\text{p})=197$  MeV polarized beam. Two emitted protons measured with Grand Raiden and Large Acceptance Spectrometer. Measured  $\sigma(\theta)$ ; deduced spectroscopic factors for ground and first excited state.

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

E(level) <sup>†</sup>	$J\pi^{\ddagger}$	S	Comments
0.0	$1/2^{+}\#$	1.07 7	S: other: 0.95 2 (EDAD1) and 0.92 2 (KDpot) ( <b>2023No05</b> ).
$0.36\times 10^3$	$3/2^{+}\#$	2.26 16	S: other: 2.79 29 (EDAD1) and 2.76 29 (KDpot) ( <b>2023No05</b> ).
$3.42\times 10^3$	$5/2^{+}\#$	0.683 49	
$3.85\times 10^3$	$1/2^{+}$	0.167 14	
$3.95\times 10^3$	$3/2^{+}$	0.323 27	
$5.24\times 10^3$	$5/2^{+}$	0.288 21	
$5.49\times 10^3$	$5/2^{+}$	0.746 52	
$6.51\times 10^3$	$5/2^{+}$	0.160 14	
$6.87\times 10^3$	$5/2^{+}$	0.070 7	
$7.81\times 10^3$	$5/2^{+}$	0.434 32	
$8.13\times 10^3$	$5/2^{+}$	0.228 19	

<sup>†</sup> From **2001Kr01**.

<sup>‡</sup> Assumed for extraction of the spectroscopic factor.

<sup>#</sup> See **2006Ga31** for a study of the systematics of the d3/2-s1/2 proton hole splitting in the odd-mass K, Cl, and P isotopes for N=20-28 and d5/2-d3/2 for  $^{39}\text{K}$  and  $^{47}\text{K}$ .