

$^9\text{Be}(^{48}\text{Ca},\text{X}\gamma)$  2004So30

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	John Cameron, Jun Chen and Balraj Singh, Ninel Nica		NDS 113, 365 (2012)	15-Jan-2012

Fragmentation of  $^{48}\text{Ca}$  beam. The SPEG magnetic spectrometer was operated in a dispersive mode to identify the emerging fragments detected at the focal plane. Their energy losses and positions in the focal plane were determined by the combination of ionization and drift chambers. Their residual energies were obtained in a thick plastic scintillator. The time of flight was derived from the timing signals in the plastic scintillator with respect to the cyclotron radio frequency. It was corrected by the use of the position of the fragments in the focal plane of the SPEG spectrometer to obtain a better time resolution and subsequently a better identification of the nuclei.

$E=60.3$  MeV/nucleon. Measured  $E_\gamma$ ,  $I_\gamma$  with an array of 74  $\text{BaF}_2$  and three segmented Ge clover detectors to identify the  $\gamma$ -rays emitted in flight by the excited fragments. The segmented Ge detectors at 85, 122, and 136° to the beam allowed for angular distribution measurements.

 $^{37}\text{P}$  Levels

E(level)	$J^\pi$	Comments
0	$(1/2^+)$	
868 7		$J^\pi$ : possibly $3/2^+$ , as predicted by shell-model calculations.

 $\gamma(^{37}\text{P})$ 

$E_\gamma$	$I_\gamma$	$E_i(\text{level})$	$E_f$	$J_f^\pi$
868 7	100	868	0	$(1/2^+)$

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