## <sup>9</sup>Be(<sup>48</sup>Ca,X) 2008Ch07

History				
Туре	Author	Citation	Literature Cutoff Date	
Full Evaluation	J. H. Kelley, C. G. Sheu and J. E. Purcell	NDS 198,1 (2024)	1-Aug-2024	

2008Ch07:  ${}^{9}$ Be( ${}^{48}$ Ca,  ${}^{12}$ Be+n) E=60 MeV/nucleon. The authors measured the neutron+charged particle ejecta produced in fragmentation reactions of  ${}^{48}$ Ca on a berylium target. The charged fragments were momentum analyzed using a large gap dipole sweeper magnet, while neutrons were analyzed using the MSU/MoNA neutron wall, which was positioned along  $\theta$ =0° with respect to the incident beam. The correlated (fragment)(neutron)-coincidences were analyzed using sequential neutron decay spectroscopy techniques.

The <sup>12</sup>Be+n decay energy spectrum compared favorably with a fit that assumed a Breit–Wigner shaped resonance at  $E_{decay} \approx 60$  keV with  $\Gamma$ =10 keV and perhaps slightly less well with a shape related to an *s*-wave resonance having a scattering length of  $a_s$ =-20 fm.

## <sup>13</sup>Be Levels

E(level)	$E_{c.m.}(^{12}Be+n)$ (MeV)	Comments
X	≈0.06	<ul> <li>E(level): the observed shape can be related to either a Breit-Wigner shaped resonance at E<sub>decay</sub>≈60 keV with Γ=10 keV or an <i>s</i>-wave resonance having a scattering length of a<sub>s</sub>=-20 fm.</li> <li>E(level): This group was later associated with decay from the high-energy tail of the J<sup>π</sup>=5/2<sup>+</sup> state to <sup>12</sup>Be*(2.1 MeV; J<sup>π</sup>=2<sup>+</sup>).</li> </ul>