

<sup>9</sup>Be(<sup>37</sup>Ca,X)    2024Dr01

$J^\pi=3/2^+$  for <sup>37</sup>Ca ground state.  
**2024Dr01:** A 72-MeV/nucleon <sup>37</sup>Ca secondary beam was produced via the fragmentation of a 95-MeV/nucleon <sup>40</sup>Ca<sup>20+</sup> primary beam impinging on a Be target. Experimental setup includes the CAESium-iodide scintillator ARray (CAESAR) for detecting  $\gamma$  rays, a DSSD-CsI(Tl)  $\Delta$ E-E Ring Telescope for detecting protons, a Scintillating-Fiber Array (SFA) and the S800 spectrograph for detecting heavy residuals. Measured total decay-energy spectra of proton emission using invariant-mass spectroscopy. Deduced levels. Comparisons with shell-model calculations.

<sup>35</sup>Ca Levels

E(level)	J <sup><math>\pi</math></sup>	Comments
2.08×10 <sup>3</sup> 10	3/2 <sup>+</sup>	E(level): from total decay energy of 2p+ <sup>33</sup> Ar E <sub>T</sub> =1667 keV 20. J <sup><math>\pi</math></sup> : shell-model calculations.