

# Search for Rotational Bands at High Excitations in $^8\text{Be}$ using the ISOLDE Solenoidal Spectrometer

*Tuesday 9 December 2025 12:15 (35 minutes)*

The  $d(^7\text{Be}, p)^8\text{Be}^*$  reaction was measured using  $5 \times 10^6$  p/s, 11 MeV/u,  $^7\text{Be}$  beam extracted from the HIE-ISOLDE. The ISOLDE Solenoidal Spectrometer (ISS) was used to detect the backward angle emitted protons from high lying states in  $^8\text{Be}$ . A rich rotational band structure is predicted above 16 MeV in  $^8\text{Be}$ , by an extension to conjectured particle-hole states of the Cluster Shell Model (CSM) of Della Rocca, Bijker and Iachello. We will review the CSM as well as preliminary analyses and extracted proton excitation spectra of  $^8\text{Be}$ .

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