

Abstract Submitted  
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**Elastic and Inelastic Scattering of  $^8\text{He}$  Using a Solid Hydrogen Target**<sup>1</sup> MATTHIAS HOLL, Saint Mary's University/TRIUMF, RITU KANUNGO, Saint Mary's University, MARTIN ALCORTA, DEVIN CONNOLLY, BARRY DAVIDS, TRIUMF, ALEJANDRA DIAZ VARELA, University of Guelph, GREG HACKMAN, JACK HENDERSON, TRIUMF, SHIGERU ISHIMOTO, KEK, ALI IHSAN KILIC, University of Guelph, REINER KRCKEN, ANNIKA LENNARZ, TRIUMF, JOHNSON LIANG, McMaster University, JAMES MEASURES, TRIUMF/University of Surrey, WOLFGANG MITTIG, NSCL/Michigan State University, OWEN PAETKAU, TRIUMF/Thompson Rivers University, ATHANASIOS PSALTUS, McMaster University, JASPREET SINGH RANDHAWA, Saint Mary's University, JAMES SMALLCOMBE, TRIUMF, MATT WILLIAMS, TRIUMF/University of York — The nucleus  $^8\text{He}$  is the most neutron-rich nucleus known. Its structure, consisting of a  $^4\text{He}$  core surrounded by four neutrons makes it an ideal case to study phenomena in highly neutron-proton asymmetric systems. An experiment studying elastic and inelastic scattering of  $^8\text{He}$  has been carried out at the IRIS setup at ISAC-II at TRIUMF. It utilized the novel IRIS solid  $\text{H}_2$  target in combination with a low pressure ionization chamber for the identification of the incoming beam and two  $\Delta E - E$  telescopes to measure the reaction products. The current status of the analysis will be shown, including the optical model analysis of the elastic scattering compared to global potentials and the analysis of excited states in  $^8\text{He}$  from inelastic scattering.

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