

Abstract Submitted
for the HAW14 Meeting of
The American Physical Society

Elastic deuteron scattering and optical model parameters at 100 MeV/u¹ D. PATEL, U. GARG, University of Notre Dame, M. ITOH, CYRIC, Tohoku University, H. AKIMUNE, C. IWAMOTO, A. OKAMOTO, Dept of Phys, Konan University, G.P.A. BERG, K. HOWARD, J.T. MATTA, E. MORGAN, K.W. SCHLAX, M. WHITE, University of Notre Dame, M. FUJIWARA, F. TAKAHASHI, M. YOSOI, RCNP, Osaka University, M.N. HARAKEH, University of Groningen and GANIL, Caen, T. KAWABATA, T. MURAKAMI, Div of Phys and Astronomy, Kyoto University, K. KAWASE, T. SAKO, JAEA, Kyoto — The advent of the radioactive ion beam facilities would render possible the measurement of giant resonances in nuclei far from the stability line. The centroid energy of the isoscalar giant monopole resonance and the isoscalar giant dipole resonance play an important role in constraining the nuclear incompressibility, an important parameter in nuclear equation of state. However, these experiments would have to be done in inverse kinematics and the most appropriate target appears to be deuteron gas in an AT-TPC. It thus becomes important to explore the features of deuteron optical model at high energy with a view of obtaining higher cross-sections. Elastic scattering measurements have been made on ²⁴Mg, ²⁸Si, ⁵⁸Ni, ⁹⁰Zr, ¹¹⁶Sn and ²⁰⁸Pb nuclei using 100 MeV/u deuteron beam at RCNP, Osaka University, Japan. Various features of the optical model parameters will be discussed.

¹This work has been supported in part by the National Science Foundation (Grant No. PHY1068192 and PHY0822648).

D. Patel
University of Notre Dame

Date submitted: 01 Jul 2014

Electronic form version 1.4