

Abstract Submitted
for the DNP12 Meeting of
The American Physical Society

Development of Solenoid Spectrometer for Nuclear Astrophysics

XIAO FANG, BRIAN BUCHER, ALAN HOWARD, YUNJU LI¹, JAMES KOLATA, AMY ROBERTS, XIAODONG TANG, University of Notre Dame, Notre Dame, IN 46556, USA — A Helios-type solenoid spectrometer has been successfully built using the existing TWINSOL facility at Notre Dame. This spectrometer has been tested using the $^{12}\text{C}+^{12}\text{C}$ fusion reaction in the energy of range of 4 MeV to 6 MeV in the center of mass frame. With this spectrometer, we have achieved 65 keV(FWHM) resolution for the excitation energy. A measurement with a clean background has been achieved at $E_{\text{cm}}=4$ MeV by using an aluminum degrader to absorb the scattered ^{12}C particle. The preliminary result together with our future plan will be presented.

¹China Institute of Atomic Energy, Beijing, China

Xiao Fang
University of Notre Dame, Notre Dame, IN 46556, USA

Date submitted: 13 Aug 2012

Electronic form version 1.4