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**SECAR: The SEparator for CApture Reactions in Nuclear Astrophysics**[1] AALAYAH SPENCER, SARA AYOUB, Michigan State University/NSCL, East Lansing, MI, SECAR COLLABORATION — Recoil separators are used to directly measure the reaction rates of proton and alpha capture reactions that take place in stellar explosions (e.g., X-Ray Bursts, Novae, etc.). SECAR is a newly designed recoil separator at the National Superconducting Laboratory (NSCL) and eventually the Facility for Rare Isotope Beams (FRIB) designed to achieve the highest particle rejection rate yet, estimated at $10^{17}$ particles per beam, needed to mainly measure the rates relevant to novae and x-ray burst phenomena. As of now 21 out of the 27 magnets that make up SECAR have been delivered, tested, and accepted with the remaining magnets and Wien filters to be delivered in Fall 2017 and Spring 2018. This paper will discuss the motivation for SECAR, the process in which the separator is being implemented, the methods used to ensure that the magnets that make up SECAR will be able to perform at the desired specifications, including testing for magnetic field reproducibility and discuss how the plans for commissioning of the system.

[1]Department of Energy

Aalayah Spencer
Michigan State University/NSCL, East Lansing, MI

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