Abstract Submitted
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The ^{12}C(^{6}He,^{4}He) transfer reaction at 5 MeV per nucleon at the ISAC-II TRIUMF facility[1] DUANE SMALLEY, FRED SARAZIN, ULRIKE HAGER, Colorado School of Mines, SHARC AND TIGRESS COLLABORATION — The ^{12}C(^{6}He,^{4}He)^{14}C transfer reaction was studied using the **S**ilicon **H**ighly-segmented **A**rray for **R**eactions and **C**oulex (SHARC), a compact charged particle silicon detector array, and the **T**RIUMF-**I**SAC **G**amma-**r**ay **E**scape **S**uppressed **S**pectrometer (TIGRESS), a high-efficiency γ-ray detector, at the TRIUMF/ISAC-II facility. The goal of the experiment is to compare the two-neutron transfer cross sections using (^{6}He,^{4}He) to the more traditional (t,p) on ^{12}C. The study requires good angular resolution coupled with particle identification, both of which are provided by SHARC with its 10,000 Si pixels instrumented by over 800 DAQ channels including a number of ΔE-E telescopes. Since the identification of the individual ^{14}C excited states requires coincident detection of γ events, the HPGe BGO-suppressed TGIRESS detectors contribute γ detection over a large solid angle. The combination of the two detector arrays allows accurate reconstruction of reaction kinematics, including Doppler correction. Preliminary results of the experiment will be presented.

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Duane Smalley
Colorado School of Mines

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