Abstract Submitted
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Commissioning and first radioactive beam experiments at the CARIBU facility[1] GUY SAVARD, SAM BAKER, SHANE CALDWELL, JASON CLARK, CARY DAVIDS, DANIEL LASCAR, ANTHONY LEVAND, RICHARD PARDO, DONALD PETERSON, DON PHILLIPS, MATTHEW STERNBERG, TAO SUN, JON VAN SCHELT, RICK VONDRASEK, BRUCE ZABRANSKY, Argonne National Laboratory — The Californium Rare Ion Breeder Upgrade (CARIBU) of the ATLAS superconducting linac facility aims at providing low energy and reaccelerated neutron-rich radioactive beams to address key nuclear physics and astrophysics questions. These beams are obtained from fission fragments of a 1 Ci 252Cf source, thermalized and collected into a low-energy particle beam by a helium gas catcher, mass analyzed by an isobar separator, and charge breed to higher charge states for acceleration in ATLAS. The facility has ramped up with first operation with a weaker 2.5 mCi source and now a 100 mCi source. Low-energy mass separated radioactive beams have been extracted, charge bred with an efficiency of about 8%, and reaccelerated to 6 MeV/u. Commissioning results, together with the results from first astrophysics experiments at CARIBU using the beams from the 100 mCi source will be presented. The final 1 Ci source is expected to be available in the spring.

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Guy Savard
Argonne National Laboratory

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