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Development and commissioning of the CARIBU project[1] TAO SUN, Argonne National Laboratory, G. SAVARD, R.C. PARDO, S. BAKER, C.N. DAVIDS, A. LEVAND, D. PETERSON, D.R. PHILLIPS, R. VONDRASEK, B. ZABRANSKY, G.P. ZINKANN — The Californium Rare Ion Breeder Upgrade (CARIBU) will enhance the radioactive beam capability of the ATLAS accelerator by providing high quality neutron-rich beam from a ^{252}Cf fission. The whole apparatus consists of four main components: 1)A Helium filled gas catcher and RFQ ion cooler that thermalizes fission products and forms a low-energy ion beam; 2)An isobar separator that magnetically purifies ion cocktails to a mass resolution of approximately 1/20000; 3)A charge breeder ECR ion source where ions of low charge states are further ionized by electron bombardment in the plasma; 4)A low energy experimental area where ions are trapped and bunched to suit high precision experiments. Ion optical simulations for CARIBU ion cooling, bunching and transmission will be presented. Experimental results from commissioning will be compared with the corresponding calculations. Other technical details of the facility and insight gained in its commissioning will also be presented. Current status of CARIBU will be given.

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Tao Sun
Argonne National Laboratory

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