

RADIOACTIVE BEAMS FROM ^{252}Cf FISSION USING A GAS CATCHER AND AN ECR CHARGE BREEDER AT ATLAS

Richard C. Pardo

for

Guy Savard, Sam Baker, Cary Davids, Frank Moore, Rick Vondrasek and Gary Zinkann

Argonne National Laboratory, 9700 S. Cass Avenue, Argonne, IL 60439

An upgrade to the radioactive beam capability of the ATLAS facility using ^{252}Cf fission fragments thermalized and collected into a low-energy particle beam using a helium gas catcher is now underway. Un-accelerated beams for trap experiments and beams accelerated by ATLAS to energies well above the coulomb barrier will be available. In order to reaccelerate these beams, an existing ATLAS ECR ion source will be reconfigured as a charge breeder source. A 1Ci ^{252}Cf source is expected to provide sufficient yield to deliver beams of up to 7×10^5 far-from-stability ions per second on target after acceleration in ATLAS and up to 10^7 ions per second for trap experiments. A facility description, the expected performance and the project status will be presented in this presentation. This work is supported by the U.S. Department of Energy, Office of Nuclear Physics, under contract W-31-109-ENG-38.