The TwinSol RNB Apparatus

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Abstract. The UM-UND RNB apparatus TwinSol (a dual 6T sc soleniod) has been in operation for approximately three years at the UND FN Tandem Lab (Fig. 1). We describe some of the unique features of the device (persistent mode operation; various ion-optical modes, etc) together with some recent experiments. The latter include a number of experiments done at or below the Coulomb barrier and include 8B breakup, 6He fusion and fission, Coulomb excitation, neutron transfers and others. We have recently extended the TwinSol beamline to transport RNBs into a low-background area where LE gamma-ray coincidence experiments have been successfully performed. A number of upgrades to both the UND FN tandem and the TwinSol apparatus are planned and will be described. Additional details may be found at www.physics.lsa.umich.edu/twinsol/. This work is supported by the US National Science Foundation.

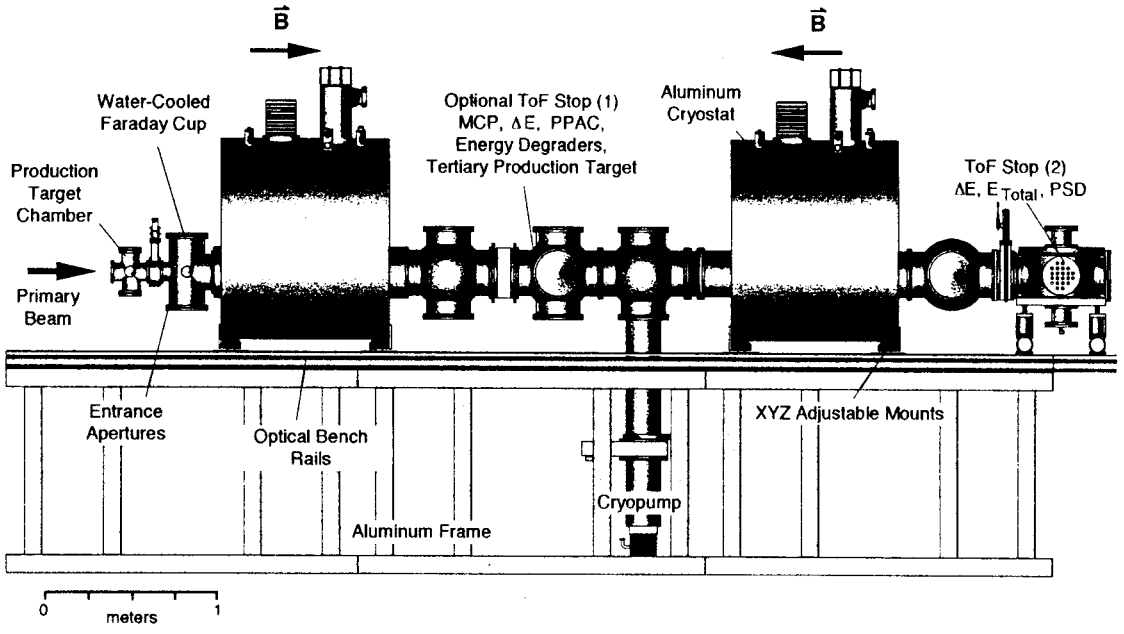

FIGURE 1. Layout of the TwinSol Low-Energy RNB Apparatus