

**A Possible High Current H<sup>-</sup> Injector for the Cyclotron-Based "Energy Amplifier" Accelerator**\*, R. BAARTMAN, T. KUO, TRIUMF - A high intensity H<sup>-</sup> cyclotron beam has been developed at TRIUMF using a central region model cyclotron and a high output dc H<sup>-</sup> ion source. 2.5 mA rf beam current has been obtained at 1 MeV and a 4 mA capability is being investigated. The 4 mA is the space charge limit imposed by the design parameters of the existing system, such as injection energy, dee voltage, vertical betatron tune frequency, source brightness and so on. A 10 mA system is proposed using 60 kV injection and 120 kV dee voltage. The required very high brightness source and efficient bunching are deemed feasible and will be described.

\* P. Mandrillon, N. Fietier, Laboratoire du Cyclotron, CAL, Nice and C. Rubbia, CERN, Geneva "A Cyclotron-Based Accelerator for Driving the Energy Amplifier". Invited paper presented to the 14th Int. Cyclotron Conference held at Cape Town, S.A. 1995