

**Study of Stochastic Cooling at ACR, N. INABE, M. WAKASUGI, RIKEN; T. KATAYAMA, CNS Univ. of Tokyo; Y. ISHI, H. KITAMURA, Mitsubishi Electric Corporation** - We studied availability of a stochastic cooling for a cooling accumulation of RI beam in the ACR. In the ACR fast cooling ( $< 0.1$  s) is essential for an RI beam with large emittance and momentum spread because the RI has an intrinsic life time. In general the stochastic cooling is useful to obtain a fast cooling time in a region where emittance and momentum spread are large. For efficient cooling, it is important to construct a pickup with high coupling impedance and broad band ( $\sim 1$  GHz). We calculated cooling times for several beams under the power limited system of an amplifier (10 kW). From calculation, coupling impedance of pickup should have  $\sim 100$  ohms in order to get a very short cooling time which has less than 0.1 s. We analyzed the coupling impedance of an pickup using MAFIA. We could obtain more than 100 ohms. The band width is  $\sim 300$  MHz for beam velocity of 0.5. On the basis of the analysis we will examine characteristic properties of the test pickup such as coupling impedance and band width using electron beam.