

Abstract Submitted
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Neutral Particle Measurements of the Pitch-Angle Scattering Rate¹ M.H. MIAH, W.W. HEIDBRINK, University of California, Irvine — Three vertically-viewing neutral particle analyzers and one horizontally scanning analyzer² are used to study the pitch-angle scattering rate of beam ions. As in the classic experiment by Goldston,³ a short beam pulse creates the initial beam-ion distribution, then the scattering rate is inferred from the charge-exchange signals. The theoretical pitch-angle scattering rate is calculated from measurements of T_e , n_e , and Z_{eff} . In preliminary analysis, the deceleration rate agrees well with classical theory but the scattering data are inconsistent with a Green's function solution³ of the Fokker-Planck equation. More detailed simulations with the TRANSP code are planned.

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²E.M. Carolipio and W.W. Heidbrink, Rev. Sci. Instrum. **68** (1997) 304.

³R.J. Goldston, Nucl. Fusion **15** (1975) 651.

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