

Abstract Submitted
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Equilibrium and Transport in Strongly Coupled and Magnetized Plasmas CLAUDE DEUTSCH, LPGP UParis-Sud, HRACHYA B. NERSISYAN, Radiophys Inst Ashtarak, GUENTER ZWICKNAGEL, Inst Theor Phys II Erlangen, ULTRACOLD COLLABORATION — Ultra-Cold plasmas obtained by ionization of atomic Rydberg states are qualified as classical and strongly coupled electron fluid. They are shown to share several common trends with ultra-cold electron flows used for ion beam cooling. They exhibit specific stopping behavior to charged particle beams, which may be used for diagnostics purposes [1]. Ultra-Cold plasmas are easily strongly magnetized. Then, one expects a strongly anisotropic behavior of low ion velocity slowing down when target electron cyclotron radius turns smaller than corresponding Debye length.

[1] C. Deutsch, H.B. Nersisyan and G. Zwicknagel, AIP Conf. Proc. 1421, 3-20[2012]

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