

Abstract Submitted  
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**Low Velocity Proton Stopping in Negative Hydrogen-Proton Mixtures** CLAUDE DEUTSCH, LPGP Université Paris XI, MARTHE BACAL, LPTP-Ecole Polytechnique-Palaiseau, BEKBOLAT TASHEV, Dpt KazNu Almaty, NEGATIVE ION 1 COLLABORATION, NEGATIVE ION 2 COLLABORATION — We consider a charge neutral plasma target built on binary ionic mixtures (BIM) with classical electrons. Electron and ion contributions to the proton projectile low velocity ion slowing down (LIVSD) for projectile velocity  $V_p < V_{the}$  ( $V_{the}$ , target thermal electron velocity) are quantitatively estimated within a dielectric formalism restricted to the quadratic dependence in the projectile charge. The target BIM is constituted of hydrogen negative ions and bare protons in any proportion. Proton LIVSD quantitatively documents a monotoneous decay of free electron density with the increasing relative proportion of negative hydrogen ions, up to equi-proportionality. Possible diagnostics of low-temperature plasmas with  $T$  3000-4000°K with total ion density ranging around  $10^{11} \text{ cm}^{-3}$  are also discussed.

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