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Low Ion-Velocity Slowing Down in a Strongly Magnetized Plasma Target CLAUDE DEUTSCH, ROMAIN POPOFF, LPGP UParis XI Orsay, LIVSD COLLABORATION — Ion projectile stopping at velocities smaller than target electron thermal velocity in a strong magnetic field is investigated within a novel diffusion formalism, based on Green- Kubo integrands evaluated in magnetized one-component-plasma models, respectively framed on target ions and electrons. Analytic expressions are reported for slowing down parallel and orthogonal to an an arbitrary large and steady magnetic field, which are free from usual uncertainties plaguing the standard binary collision/dielectric derivations. Magnetic and temperature dependences of the low velocity slowing down are thoroughly detailed for dense plasmas of fast ignition concern and ultracold plasmas envisioned for ion beam cooling, as well.

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