

Abstract Submitted
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Stopping Power for Arbitrary Angle Between Test Particle Velocity and Magnetic Field CARLO CERECEDA, USB Caracas Venezuela, MICHEL DEPERETTI, CEN-Bruyeres le Chatel France, CLAUDE DEUTSCH, LPGP UParis XI France, CERECEDA COLLABORATION, DEPERETTI COLLABORATION, DEUTSCH COLLABORATION — Using the longitudinal dielectric function derived previously for charged test particles in helical motion around magnetic field lines, the numerical convergence of the series involved is demonstrated and the double quadrature on wave vector components is performed yielding the stopping power for arbitrary angle between the test particle velocity and the magnetic field orientation. Calculations are performed for particle Larmor radius larger or shorter than electron Debye length, i.e. for protons in a cold magnetized plasma and for thermonuclear alpha particles in a dense, hot, and strongly magnetized plasma. A strong decrease is found for the energy loss as the angle varies from 0 to $\pi/2$. The range of thermonuclear alpha particles is also discussed in terms of the velocity angle w.r.t. the magnetic field orientation.

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