

DIELECTRIC MODEL OF ENERGY LOSSES
BY A MASSIVE CHARGED PARTICLE MOVING
THROUGH COLD MAGNETIZED PLASMA

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S u m m a r y

Energy losses by a charged particle moving in infinite magnetized plasma have been calculated in the framework of the dielectric model and with the use of the correspondence principle. This principle enabled us not to use a phenomenological cutoff parameter for matching with the theory of binary collisions. Analytical expressions for energy losses were derived for the motions of a particle directed along and perpendicularly to the magnetic field. They were confirmed by numerical calculations for a charged particle moving in a magnetic field of an arbitrary strength and at an arbitrary angle to the field direction. The results obtained are compared with those obtained in quantum field theory.