

The penetration of high energy charged particles through bent crystals

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The review of mechanisms of high-energy charged particles deflection by bent crystals are proposed. The mechanisms which are connected with the plane channelling of particles in bent crystal planes and with particles reflection from bent crystal planes are considered. The special attention is paid to the stochastic mechanism of beams deflection which is connected with multiple scattering of particles on bent crystal atomic strings. Last CERN experiment [1] on discovery of stochastic mechanism of beam deflection and proposals of CERN and FERMILAB on following investigations of this effect are discussed.

1. W. Scandale et al. Phys. Rev. Lett. 2008, v.101, 164801.