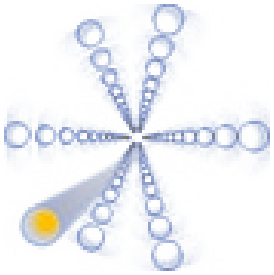

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Channeling of Protons in Various Types of Radially Compressed Carbon Nanotubes

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Channeling of 10 MeV protons in various types of radially compressed chiral carbon nanotubes is considered. Monte Carlo simulation program is used for the calculation of the trajectories, energy losses and angular distributions of protons in nanotubes of various lengths, where the potential in Doyle-Turner approximation is used to describe the interaction between a proton and a nanotube. Carbon nanotubes, which are considered, are radially compressed at the centre or at both ends. The results show that in some cases a decreased angular distribution of the beam is observed, compared with propagation through a straight nanotube. Furthermore, the energy distribution of channeled protons in nanotubes present a series of small peaks besides a main one, the number of which depends on the nanotube length and the angle of incidence, which in some cases are significantly high.

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