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# CRYSTALRAD Simulation Code for Modeling of Coherent Effects of Radiation in Crystals

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In this work we present the CRYSTALRAD simulation code, including all the features of the CRYSTAL simulation code for calculation of charged particles trajectories in a bent crystal and RADCHARM++ routine for calculation of radiation. The CRYSTALRAD code is based on Monte Carlo simulations of trajectories in interplanar and interaxial electric field either in a straight or bent crystal with simulation on each step of multiple and single Coulomb scattering on nuclei and electrons, ionization energy losses etc. The simulated trajectories are used for calculation of radiation spectra through the direct integration of the Baier Katkov formula.

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