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Observation of Coherent Cherenkov Radiation of Electron Bunches from a Partially Dielectric Loaded Waveguide

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The results of experimental observation of coherent Cherenkov radiation from picosecond electron bunches traveling along the axis of a hollow cylindrical dielectric loaded waveguide are presented. Experiments are provided on the linear accelerator AREAL of CANDLE laboratory in Yerevan. The angular distribution of radiation from 3.7 MeV electron bunches passing through cylindrical quartz sample is investigated. The obtained results are compared with theoretical estimates.

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