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Spectral-Angular Distribution of Radiation Generated by Train of Electron Bunches Passing Through the Centre of a Ball

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The results of theoretical studies of the spectral and angular distribution of radiation generated by a train of electron bunches crossing a dielectric ball are presented. The numerical results are given for a dielectric ball made of Quartz, Teflon, or Strontium titanate. It is shown, that strong peaks can appear in the spectral distribution of the radiation intensity for certain values of the problem parameters. A visual explanation for this phenomenon is given.

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