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Intense Cherenkov Radiation from a Particle Rotating About a Dielectric Ball Along a Non-equatorial Orbit

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The radiation from a relativistic charged particle uniformly revolving along a non-equatorial orbit about a dielectric ball has been investigated. The results of numerical calculations testify that (a) for definite «resonant» values of the particle revolution frequency, and (b) in case of large values of the permittivity of ball material (strontium titanite) an intensive Cherenkov radiation is generated by the revolving electron with energy in excess of 20 KeV.

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