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## **PS2-06: Radiation of Relativistic Electrons in a Periodic Wire Structure**

*Tuesday, 7 October 2014 17:00 (1h 30m)*

The interaction of relativistic electron field with periodic wire structure was considered theoretically in [1] for semi-infinite wire structure. We present in this work the experimental investigation of the interaction of relativistic electron field with periodic wire structure. The used target represented the right triangular prism. The measurements were done in millimeter wavelength region (10-40 mm) on the relativistic electron beam with energy of 6.2 MeV in far-field zone. Cherenkov radiation characteristics from sandwich wire target was compared with radiation characteristics from dielectric target in the similar geometry of experiment [2] and with backward transition radiation from flat wire structure.

### References

1. A.V. Tyukhtin V.V. Vorobev. *Phys. Rev. E.* 013202 (2014).
2. A.P. Potylitsyn, Yu.A. Popov, L.G. Sukhikh, G.A. Naumenko, M.V. Shevelev. *Journal of Physics: Conference Series.* 236 1 012025 (2010)

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