

# GENERATION OF CHERENKOV RADIATION IN OPTICAL FIBERS BY 6-MEV ELECTRONS. GEOMETRY OF PROPAGATION AND LIGHT DECAY

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Beam loss monitors based on optical fibers are widely used at GeV-scale accelerators [1]. Recently there was proposed to use such a technique for a beam profile diagnostics [2]. We have investigated a feasibility to use the Cherenkov radiation (ChR) generated in a fiber to measure a beam divergence. Measurements were carried out for different angles between a fiber axis and the electron beam and showed a possibility of such kind of diagnostics. The decay of ChR in a fiber with thickness 0.6 mm and length up to 10 m were measured. The proposed technique can be used for low intensity beams (a few pC level).

## References

- [1] X.-M.Marechal, Y.Asano, T.Itoga. Nucl. Instr. and Meth. A **673** (2012) 3745
- [2] R.Tikhoplav et al. Proceedings of IPAC 2012, MOPPR 090

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