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PS2-24: Kinetics of the Wave Propagation in the System of Parallel Fibers

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

The scattering of the plane electromagnetic wave on the fiber-like target is considered. The formula for the scattering cross section is used for building the kinetic equation that describes the propagation of the radiation in the rope of parallel fibers. The approach to building the kinetic equation is analogous to one applied in the description of multiple scattering of particles in amorphous medium [1].

The radiation intensity evolution is considered for two cases: under propagation through the rope of straight fibers and of bent ones. The possibility of the situation when the intensity maximum of the incident radiation follows the rope bent is demonstrated.

References
[1] H. Bethe, Phys. Rev. 89 (1953) 1256.

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