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# STUDY OF THE EFFECT OF RADIATION ENERGY REDISTRIBUTION BETWEEN LASER BEAMS CROSSING IN PLASMA AT "LUCH" FACILITY *)

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Laser radiation energy redistribution via ion-acoustic wave between two laser beams crossing in underdense plasma (Crossed Beam Energy Transfer or CBET) arises, provided a three-wave resonance conditions are satisfied. In the direct drive experiments it leads to significant losses of laser energy due to reflection from the target [1]. At the same time the CBET is used successfully at NIF facility to tune the irradiation symmetry of a thermonuclear capsule by applying a wavelength shift to groups of laser beams crossing at different angles. In this case the CBET occurs in low-density plasma near the laser entrance holes [2,3].

The paper presents the results of experiments at "Luch" laser facility to study CBET. Two laser beams of nanosecond duration have crossed at 70° in a layer of plasma formed after ablation of a thin plastic film. The direction of energy transfer between them has been determined by applying wavelength shift to laser beams. The experiments have been simulated using a quasi-stationary approximation in a CBET linear gain mode taking into account inverse bremsstrahlung losses [4]..

## References

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