

CROSS-CORRELATION METHOD
FOR THE FORMATION OF LASER ENERGY
FIELDS WITH COMPLEX DISTRIBUTIONS

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S u m m a r y

A new method for the formation of complex spatial distributions of the laser energy over the surface of a flat target is proposed. Its peculiarity consists in that the required phase structure of the laser beam is formed in two stages. After the Fourier transformation, this beam generates the required energy distribution. The method is intended to be used in the optical tweezers probe. It satisfies the main criteria of applicability. In particular, the method provides a small divergence of the beam; it is stable with respect to phase distortions in the optical path of the probe and adapted to dynamic changes in the field energy distribution by means of controllable phase transparencies.