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On application of wobbling in experiments with cylindrical targets

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For the experiments with cylindrical targets irradiated by high energy intense ion beams which are actual in some fundamental and applied researches (laboratory astrophysics, medicine, etc) it is necessary to shape the irradiating beam with hollow geometry. Among the various methods of hollow beam formation the wobbling is of interest. The deflecting plates or RF-cavities with phase shift of electromagnetic fields create the fast beam rotation. In the case of the suitable relation between the velocity of the rotation and the characteristic velocity of the processes inside the target substance arising from the irradiation (for instance, the velocity of the front motion of the shock wave caused by the target implosion) the beam may be considered as hollow one. In this report the benefits and the problems of the method are discussed, the calculation results are presented.

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