

## Reply to M.L. Shmatov's Comment on the Paper by S.Yu. Gus'kov "Fast Ignition of Inertial Confinement Fusion Targets" [Plasma Phys. Rep. 39, 1 (2013)]

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The review article "Fast Ignition of Inertial Confinement Fusion Targets" [1] is devoted to the analysis of the current state in the field of ignition of precompressed inertial confinement fusion (ICF) targets under the action of different types of energy drivers: fast electron and ion beams, an X-ray pulse, and a hydrodynamic flow of matter.

M.L. Shmatov's comment refers to two sections of review [1]. The part of the comment related to the ignition by an ion beam is primarily devoted to the citation of Shmatov's papers concerning secondary issues of this ignition method. However, the other part of the comment, related to hydrodynamic methods of ignition, contains statements distorting the content of my review [1]. This does not enable me to keep Shmatov's comment without an answer.

It is said in the comment that "in his recent review [1], S.Yu. Gus'kov asserts that fast ignition of a precompressed spherical fusion target from a conical fusion target was first proposed in the papers by Gus'kov and Murakami [2] and Gus'kov and Zmitrenko [3]." In fact, the following was said in [1] concerning papers [2] and [3] (in the review, these papers were cited as [142] and [143], respectively): "In [142, 143], it was proposed to decrease the required velocity of the igniting hydrodynamic flow by transforming the conical channel for the macroparticle acceleration into a conical target with parameters providing the high degree of DT layer compression due to the shell implosion. For this purpose, it was proposed to use a conventional scheme of thin-shell implosion." Nothing was said in [1] about the priority of papers [2, 3] in the context of fast ignition of a precompressed spherical target from a conical thermonuclear target. Moreover, in review [1], the problem of priority in the appli-

cation of a conical target microexplosion to the ignition of thermonuclear fuel was not discussed at all, because the problem of the actual priority in this field ascends to the applied research of Russian and foreign nuclear centers. Apparently, this subject of the comment, based on the certainly incorrect statement, was required for Shmatov to raise the question on his own priority in the field of ignition of a precompressed ICF target from a conical target microexplosion. Substantiating his priority, Shmatov refers to his papers [4, 5], published in 2002 and 2003. To help save Shmatov from illusions, it is worth mentioning, e.g., the work by Avrorin et al. "A Method for Initiating Thermonuclear Reaction" [6], one of the actual pioneering works devoted to the application of a conical target microexplosion to the ignition of thermonuclear fuel, which was issued in a public source long before [4, 5].

### REFERENCES

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