

Ablation dynamics of film–substrate targets when thickness of film is more than thickness of heat affected zone

Khokhlov V A^{1,ⓐ}, Inogamov N A¹ and Zhakhovsky V V²

¹ Landau Institute for Theoretical Physics of the Russian Academy of Sciences, Akademika Semenova 1a, Chernogolovka, Moscow Region 142432, Russia

² Dukhov Research Institute of Automatics (VNIIA), Sushchevskaya 22, Moscow 127055, Russia

ⓐ v_a_kh@mail.ru

We consider ablation dynamics in the case when film thickness d_f is larger than thickness d_T of a heat affected zone (HAZ). This problem is difficult relative to the problem when $d_f < d_T$. Film is heated supersonically up to the contact with substrate if $d_f < d_T$. Then pressure rise at a contact accelerates a motionless matter of a film in the direction out from substrate. If $d_f > d_T$, then a shock goes out of a HAZ. Shock moves matter of a film in opposite direction, in direction to substrate. Shock refracts on a contact. Situation depends on whether spallation plate (its thickness is comparable with d_T) is separated or not.

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