

Equilibrium pellet and liquid jet shape under high ablation pressures

P.B. Parks and M.N. Rosenbluth^{a)}

General Atomics, P.O. Box 85608,
San Diego, California 92186-5608, U.S.A.

^{a)}ITER San Diego Joint Worksite, La Jolla, California 92037

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Abstract

Owing to the non-spherical nature of the heat deposition in the pellet ablation cloud by energy loss of incident plasma electrons streaming parallel to the uniform magnetic field, a nonuniform pressure distribution develops on the pellet surface. This can lead to deformation of “soft” cryogenic pellets exposed to high temperature and high density magnetized plasmas. The effect of deformation on the burning rate and stability of the condensed phase is evaluated for pellets and liquid jets.