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Monte Carlo calculations of liquid metals surface tension EMERIC BOURASSEAU, AHMED-AMINE HOMMAN, OLIVIER DURAND, CEA — Large scale molecular dynamics (MD) simulations have been performed in our group to study and to model the ejecta production from the dynamic fragmentation of shock-loaded metals under melt conditions. Those microscopic simulations show that the modeling of such phenomena using hydrodynamic codes will imply the understanding of the physics occurring at the surface of the liquid fragments. Thus, it appears that surface tension will be one of the overriding properties to be taken into account in the hydrodynamic codes. As a consequence, we report here Monte Carlo calculations of surface tension of liquid metals using both mechanical and thermodynamic approaches.

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