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Volume of fluid simulations of liquefied metal nanofilms with Marangoni effects¹ IVANA SERIC, KYLE MAHADY, SHAHRIAR AFKHAMI, LOU KONDIC, New Jersey Institute of Technology — We present a method for including temperature dependent surface tension in a volume of fluid based Navier Stokes solver. The tangential gradient of the surface tension is implemented using an extension of the classical continuum surface force model that has been previously used for constant surface tension simulations. We apply the developed method to consider metal films liquefied by a pulse laser and discuss the effects of the resulting Marangoni stresses on the film evolution.

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Ivana Seric
New Jersey Institute of Technology

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