

Momentum and Heat Transfer at the Solid Liquid Interface

J-L. Barrat^{C,S}

*Laboratoire de Physique de la Matière Condensée et Nanostructures, University of Lyon, Villeurbanne,
France*

barrat@lpmcn.univ-lyon1.fr

I will review the concepts of slip length and of Kapitza length that describe the transport of momentum and of energy at a liquid-solid interface. Typical values for atomically smooth interfaces will be shown, using equilibrium and non-equilibrium molecular dynamics calculations, to be in the range of a few nanometers. It will be shown that the combination of mesoscopic roughness with dewetting transitions allows production of much larger values, up to the micrometer range.

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