

Abstract Submitted
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Cavitation in a squeeze film JAMES SEDDON, University of Twente, MAARTEN KOK, ERIK LINNARTZ, DETLEF LOHSE — We have experimentally investigated the formation of vapour cavities in the squeeze film between a sphere and wall. Surprisingly, we find that these cavities are formed *during approach* rather than after rebound, i.e. as the lubricating gap thickness is reduced and as the pressure rapidly increases. The key is that the shear stress also rapidly increases as the gap narrows, and acts to oppose pressure. Thus, despite the enhanced pressure, the liquid is forced to cavitate due to shear stress.

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