

Abstract Submitted
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Decreasing Viscosity within Freely Suspended Liquid Film
by **Bacteria** TAYEBEH SAGHAEI, Institute for Biologically inspired materials(BiMAT), Department of Nanobiotechnology, University of Natural Resources and Life Sciences Vienna, ALI-REZA MORADI, Optics Research Center, Institute for Advanced Studies in Basic Sciences, PO Box 45137-66731, Zanjan, Iran, MEHDI HABIBI, SHAREREH TAVADDOD, Laboratory of Physics and Physical Chemistry of Foods, Wageningen University, Wageningen, The Netherlands — The effect of existent active particles on rheological terms of fluid to introduce a macroscopic parameter for estimating the global motility of a large population of swimming cells have been studied extensively. In this paper, the viscosity are obtained through the measurement of the rotation rate changes of a rotating thin layer of a fluid including E.coli bacteria. A freely suspended film of a fluid is rotated under various tensions as a “liquid film motor” (LFM) and the rotation velocity changes are measured. Our experiments have revealed that the viscosity can decrease compared to the viscosity of the same liquid without bacteria or with dead bacteria.

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