

Abstract Submitted
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Motion of multiple superposed viscous fluids MAGNUS VARTDAL,
Norwegian Defence Research Establishment (FFI) — In this study, the initial-value problem arising from small-amplitude disturbances on the interfaces between multiple superposed viscous fluids is analysed. First, linearized governing equations for the evolution of the amplitudes, valid in the general case, are presented. These equations are then used to study the effect of the presence of nearby interfaces on the initial growth-rate of a Rayleigh-Taylor instability. The present work is an extension of the analysis of Prosperetti (Prosperetti, A. (1981). Motion of two superposed viscous fluids. *Physics of Fluids* (1958-1988), 24(7), 1217-1223) to the multiple interface case.

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