Numerical study on the interaction of two bubbles rising in a power-law fluid SHU TAKAGI, VARUN JADON, The University of Tokyo, KAZUYASU SUGIYAMA, Osaka University — In this study, interactions of two bubble rising in a Non-Newtonian power-law fluid have been investigated through the direct numerical simulations. An interface capturing method with a continuous function is introduced and the three-dimensional model based on modified VOF method is used to study two-bubble interaction phenomena in a power-law Fluid. Here, we discuss the influence of shear-thinning and shear-thickening characteristics on the interaction of in-line or inclined configurations of two bubbles. The numerical results reveal that the shear-thinning fluid enhances the inviscid potential interaction and in-line motion becomes more unstable in shear-thinning fluid than that in Newtonian Fluid.

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