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Numerical study on the interaction of two unequal-sized bubbles rising inline VEDABIT SAHA, VARUN JADON, Univ of Tokyo, KAZUYASU SUGIYAMA, Osaka University, SHU TAKAGI, Univ of Tokyo — In this study, the interactions of two unequal-sized bubbles rising inline in quiescent fluid have been investigated through direct numerical simulations. Three-dimensional simulations are conducted based on modified VOF method with the MTHINC scheme to study the two-bubble interaction phenomena. Here, we discuss the effects of small difference in bubble volume as they rise inline. The bubble radii ratio was varied between 0.85-1.15. In general, for equal-sized bubbles rising in line, a trailing bubble has larger rising velocity and comes closer to leading bubble. For unequal-sized bubbles, this interaction process can change drastically depending on the difference of bubble volume. Especially, there are some interesting phenomena observed in the condition that leading bubble is slightly larger than the trailing bubble. More details will be given in the presentation.

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