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On the conservative phase-field method with the N-component incompressible flows

Xia, Q, Yang, JX and Li, YB

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作者: Xia, Q (Xia, Qing); Yang, JX (Yang, Junxiang); Li, YB (Li, Yibao)
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摘要: This paper presents a conservative Allen-Cahn model coupled with the incompressible Navier-Stokes equation for tracking the interface with the N-component immiscible fluids system. The proposed conservative phase-field model can track the interface with large deformation in divergence-free velocity fields. The erroneous estimation of the normal vector is a challenging numerical issue for the interface capturing due to the appearance of spurious oscillations.
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地址: [Xia, Qing; Li, Yibao] Xi An Jiao Tong Univ, Sch Math & Stat, Xian 710049, Peoples R China.
[Yang, Junxiang] Sun Yat Sen Univ, Sch Comp Sci & Engrn, Guangzhou 510275, Peoples R China.
通讯作者地址: Li, YB (通讯作者), Xi An Jiao Tong Univ, Sch Math & Stat, Xian 710049, Peoples R China.
电子邮件地址: yibaoli@xjtu.edu.cn
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