

IMPLEMENTATION OF A GEOMETRICAL RECONSTRUCTION INTERPHASE ALGORITHM OVER OPENFOAM(R)

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Abstract.

Even when the Piecewise-Linear Interface Calculation algorithm is a well established technique for interphase reconstruction related to the Volume of Fluid method and is implemented in several privative codes, no freely-distributed version is available to the date for the OpenFOAM(R) libraries suite. This work presents implementation details of this technique over this platform, where much of them are related with the undelying numerics and the fundamental requirement of local and global conservativeness. The obtained solver, based on the original Volume of Fluid code present in the suite, incorporates highly precise curvature calculation algorithms and the possibilty of using non-structured meshes.