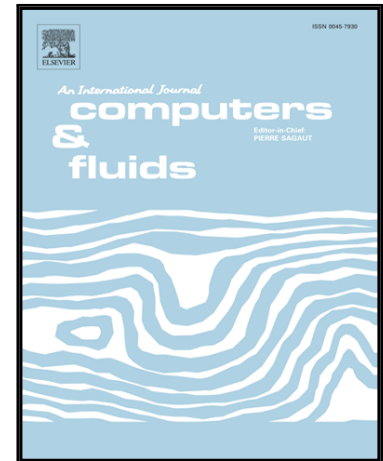


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Establishing mesh topology in multi-material cells: enabling technology for robust and accurate multi-material simulations

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Highlights

- We describe the X-MOF interface reconstruction algorithm in 2D, to include the topology of minimeshes created inside of multi-material cells and parent-child relations between corresponding mesh entities on different hierarchy levels.
- The knowledge of the topology of the minimesh is enabling technology for robust and accurate multi-material simulations.
- X-MOF algorithm is being local to a cell and not requiring external communication, which makes it suitable for massively parallel applications.
- We demonstrate some scaling results for the X-MOF implementation in Tangram, a modern interface reconstruction framework for exascale computing

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