

A multi-region level set method based on iterative correction of actual physical points

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This report proposes a multi-region level set method based on iterative correction of actual physical points, which belongs to the field of numerical simulation of multi-region interaction under Eulerian grid. Based on the actual physical intersection point of the multi-region interface, the tracer particle points are arranged. Besides, the level set function and the actual physical tracer particle points of the multi-region interface are promoted at the same time. To ensure the accuracy and efficiency of numerical simulation prediction of multi-region interface interaction, the level set function of multi-region interface is modified using the actual physical tracer particle points. Because of the existence of tracer points, the level set function near the intersection is modified iteratively to improve the prediction accuracy of multi-region interface; the number of tracer particles is greatly reduced, and the prediction efficiency of multi-region interface is improved. This method can effectively simulate the movement of multi-region interface in complex engineering problems, and improve the prediction accuracy of multi-region interface.

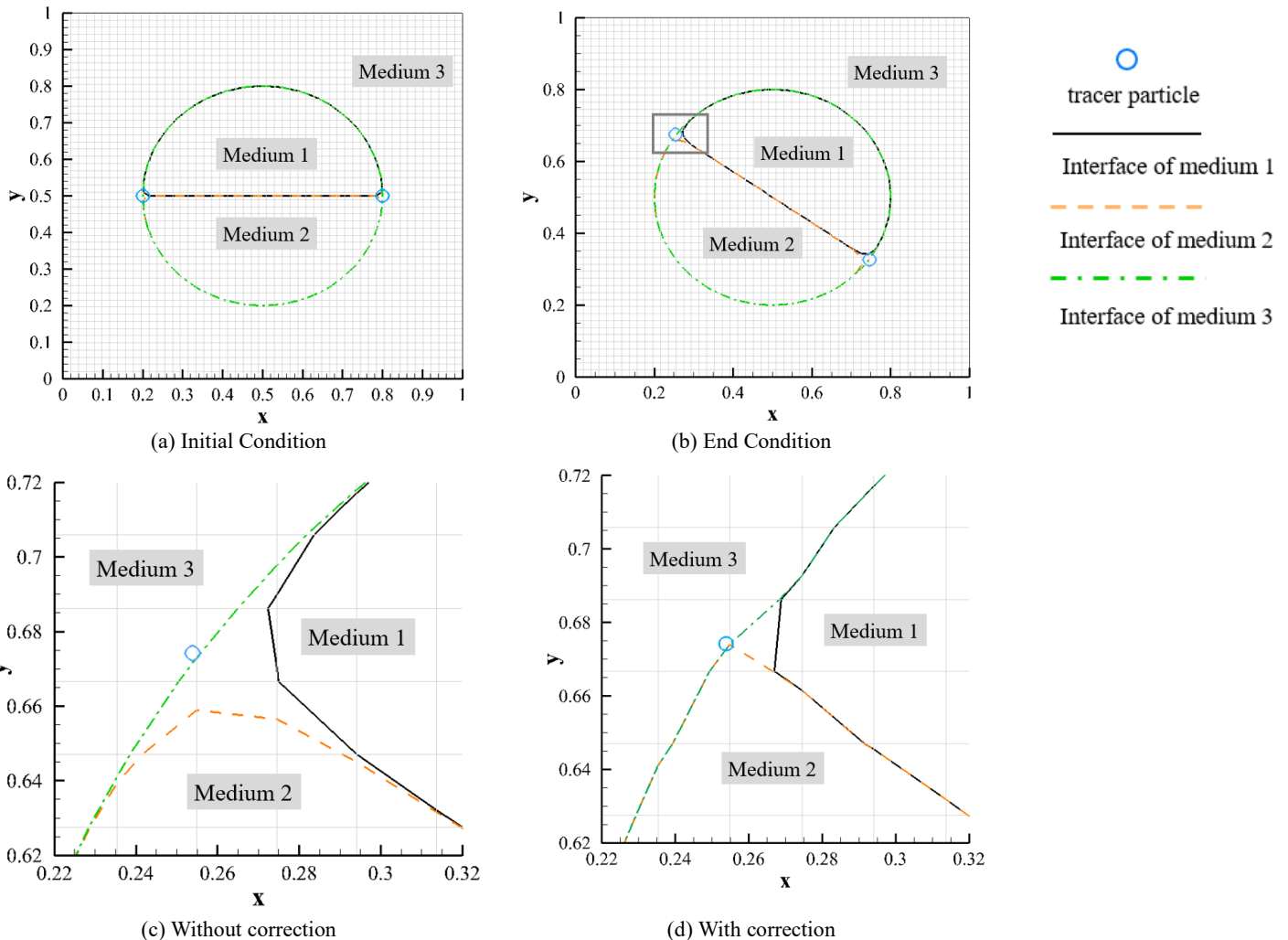


Fig1. Interface of constant rotation