Comparisons of calculation cost and accuracy between the explicit and semi-implicit distributed memory parallel MPS method

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Abstract:

In this research, calculation cost and accuracy for our distributed memory parallel algorithms of the explicit and semi-implicit MPS (Moving Particle Simulation) methods are compared. In our method, mesh based domain decomposition by ParMETIS is adopted. Generically, the calculation cost and accuracy for the explicit method is low and the calculation cost and accuracy for the semi-implicit method is high. We will compare the difference between the explicit and semi-implicit MPS method in the some problems and conditions, quantitatively.