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**Vortex dynamics in incompressible Richtmyer-Meshkov Instability** CHIHIRO MATSUOKA, Department of Physics, Ehime University, KATSUNOBU NISHIHARA, Institute of Laser Engineering, Osaka University — We study temporal evolution of an interface in the Richtmyer- Meshkov instability numerically. The interface is treated as a vortex sheet and the Birkhoff-Rott equation is used in order to describe motion of a vortex sheet. We show that redistribution of grid points to equal arclength and the application of the Fourier series expansion for numerical differentiations and integrations make it possible to perform long-time calculations. Successive profiles of a vortex sheet and the temporal evolution of the sheet strength are presented, and especially the evolution of the sheet strength of a vortex core, defined as a point at which the absolute values of the curvature and strength of a sheet become maximum, is discussed. It is found that the sheet strength of a vortex core takes a maximal value at a finite time and turns to gradually decreasing when the Atwood number in the system is non-zero.

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