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An immersed boundary method for modeling a dirty geometry data[1] KEIJI ONISHI, RIKEN AICS, MAKOTO TSUBOKURA, Kobe University / RIKEN AICS — We present a robust, fast, and low preparation cost immersed boundary method (IBM) for simulating an incompressible high Re flow around highly complex geometries. The method is achieved by the dispersion of the momentum by the axial linear projection and the approximate domain assumption satisfying the mass conservation around the wall including cells. This methodology has been verified against an analytical theory and wind tunnel experiment data. Next, we simulate the problem of flow around a rotating object and demonstrate the ability of this methodology to the moving geometry problem. This methodology provides the possibility as a method for obtaining a quick solution at a next large scale supercomputer.

Keiji Onishi
RIKEN AICS

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