

Abstract Submitted
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Study on the preconditioning method of a finite element combined formulation for fluid-structure interaction¹ HYOUNG-GWON CHOI, Seoul National University of Technology — Preconditioners for a two-dimensional combined finite element formulation were devised and tested for fluid-structure interaction (FSI) problems. A fluid-structure interaction code simulating the interaction of circular bodies with an unsteady flow is based on a P2P1 finite element method using combined formulation. Extending the AILU preconditioners proposed by Nam et al.[2002] for P2P1 finite element formulation, four preconditioners were proposed for combined finite element formulation. Numerical simulations were performed for some two-dimensional FSI problems. It has been shown that two preconditioners among them perform well with respect to computational memory and convergence for a bench-mark problem.

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