Finite element approximation of fluid-solid interaction with curved boundaries and interfaces*

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Abstract

We analyze the finite element approximation of the vibration modes of a problem with fluid-structure interaction. We consider the problem of a vessel completely filled by the fluid and the displacement vector fields variables are used for both, the fluid and the solid. We assume curved boundaries and interfaces, then the discrete domain do not coincide with the real one. Error estimates for the approximation of eigenvalues and eigenvectors are presented in the framework of the abstract spectral approximation theory.

References

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