Fluid-Structure Interaction of Mixed Convection in a Cavity-Channel Assembly of Flexible Wall

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Highlights

- Fluid-structure interaction and mixed convection in cavity-channel assembly is studied.
- The vertical wall(s) of the cavity are deformable (elastic).
- Arbitrary Lagrangian–Eulerian (ALE) approach with finite Element method is used.
- The deformable walls improve the heat transfer rate compared with rigid walls.
- The role of the deformable walls is prominent at dominant natural convection.