

Analyticity of the Semigroup Generated by the Operator of a Viscous Compressible Fluid

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The linearized initial-boundary value problem describing small motions of the viscous, barotropic compressible fluid in a bounded vessel is studied under various boundary conditions (Dirichlet, Neumann and intermediate). It is shown that the corresponding operator generates an analytic semigroup in the space L_2 .

The initial-boundary problem is considered as an example of a general mixed-order system which is parabolic in a new sense.