

Asymptotic regularity and attractors for slightly compressible Brinkman-Forchheimer equations

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The talk will be devoted to the initial boundary value problems for slightly compressible Brinkman-Forchheimer equations, modeling motion of fluids in porous media. in a bounded 3D domain with sufficiently smooth boundary under the homogeneous Dirichlet boundary condition. The dissipativity of the semigroup generated by the problem considered in higher order energy spaces is obtained, regularity and smoothing properties of solutions are studied. In addition, the existence of a global and an exponential attractors for the semigroup generated by the problem in a natural phase space is verified.