

**Regularity of a weak solution to a linear
fluid-composite structure interaction problem**

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We deal with the regularity of a weak solution to the fluid-composite structure interaction problem. The problem describes a linear fluid-structure interaction between an incompressible, viscous fluid flow, and an elastic structure composed of a cylindrical shell supported by a mesh-like elastic structure. The fluid and the mesh-supported structure are coupled via the kinematic and dynamic boundary coupling conditions describing continuity of velocity and balance of contact forces at the fluid-structure interface. It has been shown that there exists a weak solution to the described problem. By using the standard techniques from the analysis of partial differential equations, we prove that such weak solution possesses an additional regularity in both time and space variables.