

"Non-stationary Navier-Stokes equation in $2D$ power-cusp domain".

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Abstract

`\begin{abstract}`{The initial boundary value problem for the non-stationary Navier-Stokes equations is studied in $2D$ bounded domain with a power-cusp singular point O on the boundary. The case of the boundary value with a nonzero flow rate is considered. In this case there is a source/sink in O and the solution necessary has infinite energy integral.

The formal asymptotic expansion of the solution near the singular point is constructed. The justification of the asymptotic decomposition and the existence of a solution are proved. }

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