

# Homogenization of incompressible Navier-Stokes system in perforated domains

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We consider the homogenization problems for homogeneous incompressible Navier-Stokes system in three dimensional domains perforated with a large number of small holes which are periodically located. We first establish certain uniform estimates for the weak solutions. After suitably extending the weak solutions to the whole domain, we employ the generalized cell problem, where the idea comes from Tartar, to study the limit process.