

Zdeněk Skalák

Conditions of Prodi-Serrin's type for local regularity of suitable weak solutions to the Navier-Stokes equations

Comment.Math.Univ.Carolinae 43,4 (2002) 619-639.

Abstract: In the context of suitable weak solutions to the Navier-Stokes equations we present local conditions of Prodi-Serrin's type on velocity \mathbf{v} and pressure p under which $(\mathbf{x}_0, t_0) \in \Omega \times (0, T)$ is a regular point of \mathbf{v} . The conditions are imposed exclusively on the outside of a sufficiently narrow space-time paraboloid with the vertex (\mathbf{x}_0, t_0) and the axis parallel with the t -axis.

Keywords: Navier-Stokes equations, suitable weak solutions, local regularity

AMS Subject Classification: 35Q10, 35B65