<<黏性不可压流体建模>>

图书基本信息

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章节摘录

 插图： The uniqueness of weak solutions is completely open in alldimensions even in two dimensions.Of course,the uniqueness ofsolutions is close to the regularity of solutions.It has been wellknown that the solution which is regular enough is unique and anyweak solution is equal to a strong one if the later exists [38[.However,we can't expect full regularity results to be known since they would imply regularityresults for the homogeneous Navier-Stokes equations (1.6). The existence of strong solutions was obtained by Kazhikov andhis collaborators.They assumed that μ is a constant and po isbounded away from 0 and proved the local existence of unique strongsolution for all sufficiently regular data.This result was later extendedby Ladyzhenskaya and Solonnikov,Padula,Salvi.But theyall required that the initial density may not vanish (i.e.non-vacuum).Later,Choe and Kim obtained an local existence result on strongsolutions with nonnegative densities in case that μ is a constant.Recently,they proved the local existence of unique strongsolutions in a bounded domain Ω of Rn(n = 2,3) for all initial datasatisfying a natural compatibility condition in the case when μ depends on p and the initial density p0 may vanish in an open subsetofΩ.

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《黏性不可压流体建模》适合偏微分方程专业的研究生、教师和有关的科学工作者参考。
书末附有较详细的参考文献，便于读者在这一方向上开展研究工作。

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