



复旦大学数学科学学院 数学综合报告会

午间学术报告会（一百八十一）

报告题目：SELF-DUAL SOLUTION OF 3D INCOMPRESSIBLE NAVIER-STOKES EQUATIONS

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报告时间：2024-04-12 星期五 12:00-13:00

报告地点：光华东主楼 2201

摘要：

Whether the 3D incompressible Navier-Stokes equations will have a global smooth solution for all smooth, finite energy initial data is a Millennium Prize problem. One of the main difficulties of this problem is that the Navier-Stokes equations are actually a system of semilinear heat equations rather than a single equation. In this paper, we discover a remarkable hidden symmetry of the 3D incompressible Navier-Stokes equations. Under this symmetric reduction, the system reduces to a single scalar semilinear heat equation. The symmetry also holds for the 3D incompressible Euler equations.

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