

On Landau solutions of the Navier-Stokes equations

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In 1944 L.D. Landau calculated a very interesting family of explicit solutions of the steady-state 3d Navier-Stokes equations. The solutions are derived under certain assumptions of symmetry, which reduce the Navier-Stokes equations to a system of ordinary differential equations. We investigate what happens when some of the symmetry conditions are dropped (and we have to deal with a system of partial differential equations). Possible implications of these calculations for more general classes of solutions will also be discussed.

The talk will be in Vincent Hall 570 at 3:35 pm