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Title: Finite Energy Weak Solutions of the Quantum Navier-Stokes equations

Authors: Stefano Spirito and Paolo Antonelli

Abstract: In this talk we focus on a new compactness result about finite energy weak solutions of the quantum Navier-Stokes equations. The novelty of the result is that we are able to consider the vacuum in the definition of weak solutions. The main tool is a new formulation of the equations which allows us to get an additional a priori estimate to prove compactness. Some remarks concerning the choice of the approximation system to get global existence will be made. This is a joint work with Paolo Antonelli (GSSI - Gran Sasso Science Institute)