

1047-76-488

Roman Shvydkoy* (shvydkoy@math.uic.edu), 851 S Morgan St, MC 249, Department of Math Stat and Comp Sci, Chicago, IL 60607. *C*-algebra approach to spectral problems arising in hydrodynamics.*

We present a construction based on the Antonevich isomorphism theorem which allows to describe the Fredholm spectrum of the 3D Euler equation in terms of the Sacker-Sell spectrum of a finite dimensional dynamical system. Furthermore we will prove that that the Fredholm spectrum is rotationally invariant and has no circular gaps. As a consequence, it consists of a single annulus. This construction applies to a variety of other equations that appear in ideal fluid mechanics, such as SQG, Euler with Coriolis, etc. This is joint work with Y. Latushkin. (Received February 03, 2009)