

Meeting: 1005, Newark, Delaware, SS 2A, Special Session on Singular Analysis and Spectral Theory of Partial Differential Equations

1005-35-194 **Marius S Mitrea*** (marius@math.missouri.edu), Department of Mathematics, University of Missouri-Columbia, Columbia, MO 65211. *Recent progress in the study of Navier-Stokes equations in rough domains.* Preliminary report.

I will discuss some recent work, in collaboration with S. Monniaux, on the structure of the domain of fractional powers of the Stokes operator in domains with rough boundaries. These results are then used to adapt the Fujita-Kato theory to the case of arbitrary Lipschitz domains in the three-dimensional Euclidean space. (Received February 08, 2005)