1030-65-50   **Jean-Luc Guermond***, Department of Mathematics, Texas A&M University, College Station, TX 77843-3368. *On the construction of suitable weak solutions of the Navier-Stokes equations.*

We explore strategies for constructing suitable weak solutions using the Faedo Galerkin method. We identify a major obstacle for spectral-based methods which is that a certain commutator does not go to zero fast enough as the mesh size (i.e. the inverse of the dimension of the approximation space) goes to zero. (Received July 05, 2007)

1