

Meeting: 1001, Evanston, Illinois, SS 6A, Special Session on Nonlinear Partial Differential Equations and Applications

1001-35-93 **D. Donatelli** and **K. Trivisa*** (trivisa@math.umd.edu). *On a Multidimensional Model for the Dynamic Combustion of Compressible Reacting Flows.*

We consider a multidimensional model for the dynamic combustion of compressible reacting fluids formulated by the Navier Stokes equations in Euler coordinates. For the chemical model we consider a one way irreversible chemical reaction governed by the Arrhenius kinetics. The existence of globally defined weak solutions of the Navier-Stokes equations for compressible reacting fluids is established by using weak convergence methods, compactness and interpolation arguments in the spirit of E. Feireisl and P.L. Lions. (Received August 16, 2004)