Department of Mathematics

University of Houston

Scientific Computing Seminar

Prof. Jacques Rappaz EPFL, Lausanne, Switzerland

On a mixing-length model to numerically treat a turbulent flow

Thursday, Nov. 13, 2013 1:30 PM- 2:30 PM Room 646 PGH

Abstract: In fluid mechanics the RANS modelling (Reynolds Averaged Navier-Stokes eq.) assumes that the period of the mean solution of Navier-Stokes equations is several orders of magnitude larger than the turbulence fluctuations. A type of simple model often used by engineers is a mixing-length model called "Smagorin- sky modelling".

In this talk we present an industrial application in which it seems justified to take this kind of modelling. For two different Stokes models we prove the existence of unique solution and we give numerical approximation results.

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This seminar is easily accessible to persons with disabilities. For more information or for assistance, please contact the Mathematics Department at 743-3500.