ISTITUTO DI MATEMATICA APPLICATA E TECNOLOGIE INFORMATICHE (CNR)
DIPARTIMENTO DI MATEMATICA "FELICE CASORATI"
via Ferrata,1 – 27100 Pavia (Italia)

Seminario di Matematica Applicata

Martedì 20 gennaio 2004 alle ore 16 a Pavia, nella Sala Conferenze dell'IMATI-CNR (ex IAN), la

Dr. Blanca Ayuso
(IMATI-CNR)

terrà la conferenza:

Postprocessing mixed finite element methods for the Navier-Stokes equations

Abstract. In recent years, it was introduced a postprocessing technique based on the idea of Approximate Inertial Manifolds(AIMs). The technique was first developed for spectral methods and then, considered for standard finite-element methods for dissipative partial differential equations. In this talk we shall extend the technique for the mixed finite element methods (MFEM) for the incompressible Navier-Stokes Equations. We shall show that it enhances the accuracy and increase the efficiency of the MFEM. Accuracy is enhanced by increasing the order of convergence of the velocity and pressure approximations. Efficiency is enhanced since the postprocessing amounts to solving a single Stokes problem, once the time integration(the most time consuming work) is completed. We shall present some numerical experiments that confirm both this increase in the convergence rate and the corresponding improvement in computational efficiency. (Joint work with B. Garcia-Archilla and J. Novo)

La S.V. è cordialmente invitata.

☕ Dopo la conferenza sarà organizzato un breve rinfresco ☕