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V A B I L O

Univerza v Ljubljani, Fakulteta za strojništvo, LECAD Laboratorij Vas vljudno vabi na predavanje

Prof. Dr.
Michel Deville
The EPFL – Swiss Federal Institute of Technology

z naslovom:

"DNS and LES by spectral elements"

Predavanje bo v četrtek, 26.02.2009 ob 11.oo uri na FS
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Abstract:
The spectral element method is applied to the numerical integration of the incompressible Navier-Stokes equations.The velocity field is discretized on a Gauss-Lobatto-Legendre grid and the pressure on a Gauss-Legendre mesh. This avoids the presence of spurious pressure modes. Time integration is performed by an implicit treatment of the Stokes operator while the non linear terms are explicitly handled. The cubical cavity problem is chosen as the example for DNS and LES approaches. In spectral elements we are able to filter the calculations in such a way that the LES model can be chosen independently of the numerical method.A few applications will tackle free surface problems and advection related test cases.

About Professor Michel Deville:
Parallel to running of some "home-projects" funded by the NSF, Bern, Switzerland, outside of his Laboratory, Prof. Deville (as Chair of the Department of Numerical Engineering at the EPFL) has been actively collaborating in the EU (Frije Universiteit Brussels) and world-wide (The Kyoto Institute of Technology) scientific endeavors, on the evaluation-projects of the sophisticated CFD codes. His latest active contribution in the CFD-community is being a scientific committee-chair and the key-note speaker of "The 2nd International Conference on Turbulence and Interactions 2009". Prof Michel Deville is scientific collaborator and consultant of the French Space Agency, the ONERA. In the Laboratory for Numerical Engineering, Prof. Deville is currently giving lectures and monitoring the research with his six PhD-students in areas of Numerical Fluid Mechanics - the Spectral methods and Turbulence modeling using the Large Eddy Simulations.

Vljudno vabljeni!

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