Accuracy and uncertainty in flow simulation

Erreur d'approximation et incertitude en simulation numérique en mécanique des fluides

JSO December 3, 2010 – ONERA Châtillon – Contensou conference room

Organization committee: J. Peter, T.-H. Lê, J.-M. Le Gouez

The symposium is free but registration is required (limited number of seats)
Mail to: Jacques.Peter@onera.fr

8h10 Welcome

8h25 Introduction J. Peter

Approximation error – Chairman : Jean-Marie Le Gouez

8h40 Approximation error using adjoint method
M. Meaux (Airbus-F)

9h05 Fictitious induced drag in two dimensional flow
D. Destarac (Onera)

9h30 Approximation error for internal and external (RANS) flows
X. de Saint-Victor (Onera)

9h55 Solution verification: Overview of the Lisbon workshops
L. Eça (Instituto Superior Tecnico)

10h35 Coffee break

10h50 h-p refinement for linearized Euler equations solved by a Galerkin-discontinuous method
Ch. Peyret (Onera)

11h15 Optimal anisotropic mesh adaptation for sonic boom propagation
F. Alauzet (Inria)

11h40 Automatic grid adaptation and error evaluation for unstructured finite volumes
M. Visonneau (Ecole Centrale de Nantes)

12h05 Adaptative Finite Elements in CFD
R. Becker (Université de Pau)

12h30 Lunch break

Uncertainty propagation – Chairman : Vincent Couaillier

13h50 Non intrusive uncertainty propagation methods
H. Bijl, R. Dwight (TU-Delft)

14h30 Intrusive polynomial chaos method
Ch. Lacor (Vrije Universiteit Brussel)

14h55 Uncertainty quantification and propagation in CFD
D. Lucor, P. Sagaut (Université Pierre et Marie Curie), Ph. Guillen (Onera)

15h20 Uncertainty propagation in CFD. Methods, test cases and projects
Ch. Hirsch (NUMECA)

15h45 Coffee break

16h00 Quantification and propagation of modelling uncertainties
P. Cinnella (ENSAM/ParisTech)

16h25 Adjoint based 2nd order Taylor expansion for uncertainty quantification
G. Rogé (Dassault)

16h50 Assessment of NIPCM for geometrical and aerodynamical uncertainties
M. Lazareff, J. Peter, A. Fourmaux (Onera)

17h15 A polynomial chaos approach for nuclear data uncertainties evaluations
P. Dossantos Uzarralde (CEA)

17h40 Closure