rather than a state of present affairs. More books of this nature are needed to stimulate the much needed dialogue between the mathematical physics and engineering communities: as L'vov and Procaccia suggests, "The marriage of physics and engineering will be the challenge of the 21st century".

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Fifteenth International Conference on Numerical Methods in Fluid Dynamics, Proceeding of the Conference Held in Monterey, CA, USA, 24–28 June 1996, Lecture Notes in Physics, Volume 490, edited by **P. Kutler, J. Flore, J.-J. Chattot** (Springer-Verlag GmbH & Co. KG, Heidelberg, 1997, 655 pp.) DM 168.00 ÖS 1226.40 sFr 152.00 FF 633.00 GB£ 64.50 US$ 109.00 hc ISBN 3 540 63054 6

The volume 490 of Springer's "Lecture Notes in Physics" contains the papers of the three invited lectures and of about 100 papers (with 6 pages for each paper) of the contributed talks of the conference. The editors structured the material with the following subsections: Invited Lectures, Algorithms (Numerical Techniques, Euler, Incompressible Flows, Navier-Stokes), Applications, Design Methods, Grid Adaption, Internal Flows, LES and DNS, Parallel Computing, Special Topics, Turbulence Modeling, Unsteady Flows, Unstructured Grids.

The invited lectures cover the topics of "Numerical Simulation and Analysis of the Transition to Turbulence" (by Ch.-H. Bruneau), "Multidisciplinary Design Optimization of Advanced Aircraft Configurations" (by A.A. Giunta, O. Golividov, D.L. Knill, B. Grossman, W.H. Mason and L.T. Watson) and "Turbulence Modeling – Progress and Future Outlook" (by J.G. Marvin and G.P. Huang).

The topics of the different contributed papers vary from new or improved numerical schemes to solve numerical problems of subsonic, transonic, supersonic and hypersonic flow. The reader interested in aerodynamic application will be pleased to find many examples of flow over airfoils, wings and complete aircraft configurations. There are also examples of application to internal flow, e.g. jets, shear layers, nozzles, piston engines and turbines. An important topic treated in several papers is the use of structured and unstructured grids, grid adaption and local grid refinement. Furthermore, there are papers about the proper implementation of the new and improved numerical methods on vector and parallel computers, a topic of growing importance.

In general, the Proceedings of the 15th International Conference on Numerical Methods in Fluid Dynamics offer a very interesting survey over new developments in the field.

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