

interested in the development of the precursors of the electronic digital computer.

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These are the proceedings of a symposium on Applied and Industrial Mathematics held October 2-6, 1989, in Venice, Italy. Part I contains the invited papers, Part II selected contributed papers.

The invited speakers and their titles are: C. Cercignani, "Physical problems and rigorous results in kinetic theory"; A. Chorin, "Statistical mechanics of vortex filaments" (abstract); Feng Kang, "The Hamiltonian way for computing Hamiltonian dynamics"; C. W. Gear & Fen-Lien Juang, "The speed of waveform methods for ODEs"; J. B. Keller, "Diffusively coupled dynamical systems"; Peter D. Lax, "Deterministic turbulence" (extended abstract); J. L. Lions, "Exact controllability for distributed systems. Some trends and some problems"; V. P. Maslov, "Beginning of weakly anisotropic turbulence"; Sanjoy K. Mitter, "Markov random fields, stochastic quantization and image analysis"; H. Neunzert, F. Gropengiesser & J. Struckmeier, "Computational methods for the Boltzmann equation"; J. R. Ockendon, "A class of moving boundary problems arising in industry"; M. Primicerio, "Systems with non-fading memory encountered in the modellization of industrial problems"; Mario Pulvirenti, "A stochastic particle system modelling the Broadwell equation"; A. Quarteroni & A. Valli, "Theory and application of Steklov-Poincaré operators for boundary-value problems"; S. Rionero & B. Straughan, "On the problem of natural convection".

The contributed papers are grouped under six subject areas: Mathematical modelling in fluid mechanics; Nonlinear waves; Wave propagation in random media; Transport phenomena; Inverse problems in the applied sciences; Mathematical modelling of industrial problems.

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