Nonlinearities, Dynamics, and Fractals

(3rd Annual Meeting of ENGADYN, Grenoble, October 12-15, 1992)

About two years ago, in the fall of 1990, a first meeting of some few individuals took place at Lavin/Engadin in Switzerland. There, the idea was born to constitute a group named "ENGADYN" with the aim of intensifying an international and interdisciplinary cooperation in the field of nonlinearities, dynamics, and fractals. As a first step, arrangement of annual meetings has been settled. The actual participants consist of physicists, chemists, biologists, physicians, mathematicians, and others.

The last two meetings in 1991 and 1992 took place at Col du Cucheron near Grenoble in France. Last year, the main topics concentrated on structure formation processes in semiconductor and laser dynamics, possible generating mechanisms of fractality, and implications for turbulence phenomena. This year, diverse directions ranging from spatio-temporal chaos in solid state physics and reaction-diffusion biochemistry to fully developed turbulence in hydrodynamics, on the one hand, just as from nowhere differentiable basin boundaries in time-discrete mappings to information-theoretical measures of complexity, on the other hand, have been addressed. The overall coherence in the motivations, goals, and methods of research as well as the collaborative spirit which, in spite of some controversial points, were evident in the discussions at the meeting are attempted to be captured in the various contributions of the present proceedings.

Bayreuth, November 1992

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