

## **Contents**

	Origine et perspectives des structures dissipatives By P. Glansdorff (With 3 Figures and English Abstract)	1
	Dissipative Structures in Chemical Systems - Theory and Experiment By M. Marek (With 6 Figures)	12
	Bifurcation Diagram of Model Chemical Reactions By M. Kaufman-Herschkowitz and T. Erneux (With 3 Figures)	18
<b>)</b>	Nonequilibrium Phase Transitions and Instability Hierarchy of the Laser, an Example from Synergetics. By H. Haken (With 10 Figures)	22
	Mechanisms of Chemical Oscillators. By R.M. Noyes	34
	Chemical Oscillations During the Oxidative Bromination of Some Aromatic Compounds with Bromate. By M. Orbán and E. Körös (With 7 Figures)	43
	Quantitative Study of a Chemical Oscillation By JC. Roux and C. Vidal (With 4 Figures)	47
	Etude cinétique de la réaction de Bray By G. Schmitz and H. Rooze (With 3 Figures and English Abstract)	51
)	Nonequilibrium Transitions Induced by External Noise By R. Lefever and W. Horsthemke (With 2 Figures)	57
	Experimental Evidence of Noise Induced Transitions in an Open Chemical System. By P. De Kepper and W. Horsthemke (With 4 Figures)	61
	On Measures of Stability and Relative Stability in Systems with Multiple Stationary States. By I. Procaccia and J. Ross (With 1 Figure)	64
	Stochastic Simulation of Chemical Systems Out of Equilibrium By P. Hanusse (With 4 Figures)	70
	On Membrane Potentials and Their Measurements. By J. Chanu (Abstract)	75
	Measurement and Interpretation of Membrane Potentials Under Conditions Simulating the Ionic Environment of Biological Membranes By M. Delmotte, A. Rejou-Michel, and M. Villardi	76
	Temporal and Special Patterns in Biochemical Systems. By B. Hess (Abstract)	79
	Secondary Effects in Soret-Driven Instability By M.G. Velarde (With 6 Figures)	80

Velocity Field in the Rayleigh-Benard Instability: Transitions to Turbulence. By M. Dubois and P. Bergé (With 9 Figures)	85
Scaling Theory of Instability, Nonlinear Fluctuation and Formation of Macroscopic Structure. By M. Suzuki (With 15 Figures)	94
Chaos and Strange Attractors in Chemical Kinetics By O.E. Rössler (With 3 Figures)	107
The Multifaceted Family of the Nonlinear: Waves and Fields, Center Dynamics, Catastrophes, Rock Bands and Precipitation Patterns  By P. Ortoleva (With 7 Figures)	114
Evolution chimique loin de l'équilibre: concepts, modeles et réel By A. Pacault (With 6 Figures and English Abstract)	128
Do Instabilities Exist in Solid-Gas Reactions? By G. Bertrand (With 2 Figures)	147
Thermal Properties of Oscillating Reactions: Two Examples By C. Vidal and A. Noyau (With 3 Figures)	152
Sur l'origine d'instabilités chimiques et hydrodynamiques observées à l'interface huile-eau By M. Dupeyrat and E. Nakache (With 3 Figures and English Abstract)	156
Application en cinétique électrochimique des concepts d'états stationnaires multiples et de structures dissipatives: électrocristallisation et passivation des métaux	
By I. Epelboin, C. Gabrielli, M. Keddam, and R. Wiart (With 5 Figures and English Abstract)	161
Conclusions and Perspectives. By G. Nicolis (With 2 Figures)	166