

CONTENTS

Introduction	ix
Méthodes d'Analyse Globale en Hydrodynamique <i>Unpublished Lecture Notes by J.-P. Eckmann, Lausanne, 1970.</i>	1
On the Nature of Turbulence (with <i>F. Takens</i>) <i>Commun. Math. Phys.</i> 20, 167–192 (1971) and 23, 343–344 (1971)	57
Occurrence of Strange Axiom <i>A</i> Attractors Near Quasi-Periodic Flows on T^m , $m \geq 3$ (with <i>S. Newhouse</i> and <i>F. Takens</i>) <i>Commun. Math. Phys.</i> 64, 35–40 (1978)	85
Bifurcation in the Presence of a Symmetry Group <i>Archive Rat. Mech. Anal.</i> 51, 136–152 (1973)	91
Some Comments on Chemical Oscillations <i>Trans. N. Y. Acad. Sci.</i> 35, 66–71 (1973)	109
A Measure Associated with Axiom- <i>A</i> Attractors <i>Amer. J. Math.</i> 98, 619–654 (1976)	117
The Ergodic Theory of Axiom <i>A</i> Flows (with <i>R. Bowen</i>) <i>Inventiones Math.</i> 29, 181–202 (1975)	153
Sensitive Dependence on Initial Condition and Turbulent Behavior of Dynamical Systems <i>Ann. N. Y. Acad. Sci.</i> 316, 408–416 (1978)	175
What are the Measures Describing Turbulence? <i>Progr. Theor. Phys. Suppl.</i> 64, 339–345 (1978)	185
Microscopic Fluctuations and Turbulence <i>Phys. Lett.</i> 72A, 81–82 (1979)	193
Strange Attractors <i>Math. Intelligencer</i> 2, 126–137 (1980)	195
Small Random Perturbations of Dynamical Systems and the Definition of Attractors <i>Commun. Math. Phys.</i> 82, 137–151 (1981)	207
Measures Describing a Turbulent Flow <i>Ann. N. Y. Acad. Sci.</i> 357, 1–9 (1980)	223

Differentiable Dynamical Systems and the Problem of Turbulence <i>Bull. Amer. Math. Soc.</i> 5 , 29–42 (1981)	233
On Feigenbaum's Functional Equation $g \circ g(\lambda x) + \lambda g(x) = 0$ (with <i>M. Campanino</i> and <i>H. Epstein</i>) <i>Topology</i> 21 , 125–129 (1982)	247
Do Turbulent Crystals Exist? <i>Physica</i> 113A , 619–623 (1982)	253
Statistical Mechanics of Vortices in an Inviscid Two-Dimensional Fluid (with <i>J. Fröhlich</i>) <i>Commun. Math. Phys.</i> 87 , 1–36 (1982)	259
Large Volume Limit of the Distribution of Characteristic Exponents in Turbulence <i>Commun. Math. Phys.</i> 87 , 287–302 (1982)	295
Characteristic Exponents for a Viscous Fluid Subjected to Time Dependent Forces <i>Commun. Math. Phys.</i> 93 , 285–300 (1984)	311
Bounds on Complexity in Reaction–Diffusion Systems (with <i>N. Kopell</i>) <i>SIAM J. Appl. Math.</i> 46 , 68–80 (1986)	327
Two-Dimensional Poiseuille Flow (with <i>J.-P. Eckmann</i>) <i>Physica Scripta</i> T9 , 153–154 (1985)	341
Bowen's Formula for the Hausdorff Dimension of Self-Similar Sets pp. 351–358 in <i>Scaling and Self-Similarity in Physics</i> (<i>J. Fröhlich</i> ed.) PPh 7, Birkhäuser, Boston, 1983	343
Repellers for Real Analytic Maps <i>Ergod. Th. & Dynam. Syst.</i> 2 , 99–107 (1982)	351
Flots qui ne Mélangent pas Exponentiellement <i>C. R. Acad. Sc. Paris</i> 296 Ser I, 191–193 (1983)	361
Ergodic Theory of Chaos and Strange Attractors (with <i>J.-P. Eckmann</i>) <i>Rev. Mod. Phys.</i> 57 , 617–656 (1985)	365
Resonances of Chaotic Dynamical Systems <i>Phys. Rev. Lett.</i> 56 , 405–407 (1986)	405
Resonances for Intermittent Systems (with <i>V. Baladi</i> and <i>J.-P. Eckmann</i>) <i>Nonlinearity</i> 2 , 119–135 (1989)	409

-
- Liapunov Exponents from Time Series (with *J.-P. Eckmann*,
S. Oliffson Kamphorst and *S. Ciliberto*) 427
Phys. Rev. A **34**, 4971–4979 (1986)
- Diagnosis of Dynamical Systems with Fluctuating Parameters 437
Proc. R. Soc. Lond. A **413**, 5–8 (1987)
- Recurrence Plots of Dynamical Systems (with *J.-P. Eckmann* and
S. Oliffson Kamphorst) 441
Europhys. Lett. **4**, 973–977 (1987)
- Fundamental Limitations for Estimating Dimensions and Lyapunov
Exponents in Dynamical Systems (with *J.-P. Eckmann*) 447
Physica D **56**, 185–187 (1992)
- Deterministic Chaos: The Science and the Fiction 451
Proc. R. Soc. Lond. A **427**, 241–248 (1990)
- Is There Screening in Turbulence? 459
J. Statist. Phys. **61**, 865–868 (1990)
- Where Can One Hope to Profitably Apply the Ideas of Chaos? 463
Physics Today **47** No. 7, 24–30 (1994)