

Preface

Heterogeneous catalytic reactions and catalytic reactors are known to exhibit complex dynamic behavior and significant progress has been made, in the past two decades, in understanding this complexity using the tools of nonlinear dynamics and advanced experimental methods which allow in situ observations of catalytic surfaces. Recent studies in this area focus on *spatiotemporal catalytic patterns*. This volume presents the results of an interdisciplinary project in the engineering and the natural sciences and of a workshop on “Spatiotemporal Catalytic Patterns” that was held on 15–17 October 2000 at the Technion in Haifa, Israel. This symposium was co-sponsored by the Volkswagen-Stiftung, the Minerva Center for Physics of Complex Systems, the Chemical Engineering Department and the Technion, Israel Institute of Technology.

This volume is a collection of 11 contributions that span a wide range of pattern forming systems, beginning with well-defined single crystal surfaces under UHV conditions and all the way to commercially important supported catalysts and catalytic reactors under

normal pressure conditions. Both experimental and theoretical aspects are presented.

A special contribution to electrocatalysis is included which demonstrates the new insights to be gained in a neighboring field by looking at the dynamics of a reaction much studied in the steady state.

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