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Titolo	Imagery Synergetics : Science of Cooperation / / by Peter J. Plath, Ernst-Christoph Haß, Hartmut Linde
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Descrizione fisica	1 online resource (414 pages)
Collana	Understanding Complex Systems, , 1860-0840
Disciplina	003
Soggetti	Electronic circuits Electronics Electrical engineering Electronic Circuits and Systems Electronics and Microelectronics, Instrumentation Electrical and Electronic Engineering
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Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Images from the history of synergetics -- Part I: Synergetic view on historic experiments -- The Swinging chromium -- Liesegang structures -- Runge pictures -- Part II: Fractal structure in chemistry and biology -- Fractal metal zinc-trees -- The fractal character of modified zeolites -- Pattern of sea shells modelled by one-dimensional automata -- Part III: Dissipative structures -- Waves which move uphill -- Dissipative sculpturing of beige jasper of the eastern desert of Egypt -- Complex dissipative structures mainly at liquid/liquid and liquid/gas inter-phases -- Cooperation of flow instabilities -- The oscillatory regime of Marangoni-instability -- Part IV: Structure formation in social systems -- Creativity -- comments to the scientific process -- Mother Hulda and the Blue Sky Catastrophe -- Part V: Kaleidoscope -- Small contributions to a variety of complex pattern formation processes.
Sommario/riassunto	This book is aimed to a broad audience of researchers and students who are interested in questions of structure formation in complex systems in nature and society. When we think of synergetics, impressive images of complex structures immediately come to mind.

Such images serve us as starting point and guide for understanding structure formation in chemical, biological, physical, geological, and social systems. Many fascinating pictures of new experimental results illustrate the imagery of synergetics and at the same time enable precise statements about the underlying laws based on precise and discussed measurements. In this way, for example, the famous Runge pictures are accessible to a physico-chemical description, and it turns out that the well-known disintegration of the beer foam satisfies a consecutive kinetics with feedback. The modeling by means of cellular automata and iterated function systems enables us to study the cooperative character of pattern formation on sea shells on the one hand but also to show that creativity is a cooperative effect.

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