

1. Record Nr.	UNINA9910438113403321
Autore	Oono Yoshitsugu
Titolo	The nonlinear world : conceptual analysis and phenomenology // by Yoshitsugu Oono
Pubbl/distr/stampa	Tokyo ; ; London, : Springer, 2012
ISBN	1-283-90996-0 4-431-54029-6
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (306 p.)
Collana	Springer series in synergetics ; ; 10
Disciplina	570.1
Soggetti	Phenomenological biology Nonlinear theories Synergetics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Looking at the Nonlinear World -- Conceptual Analysis -- Phenomenology -- Modeling -- Toward Complexity.
Sommario/riassunto	The most important characteristic of the "world filled with nonlinearity" is the existence of scale interference: disparate space-time scales interfere with each other. Thus, the effects of unknowable scales invade the world that we can observe directly. This leads to various peculiar phenomena such as chaos, critical phenomena, and complex biological phenomena, among others. Conceptual analysis and phenomenology are the keys to describe and understand phenomena that are subject to scale interference, because precise description of unfamiliar phenomena requires precise concepts and their phenomenological description. The book starts with an illustration of conceptual analysis in terms of chaos and randomness, and goes on to explain renormalization group philosophy as an approach to phenomenology. Then, abduction is outlined as a way to express what we have understood about the world. The book concludes with discussions on how we can approach genuinely complex phenomena, including biological phenomena. The main target of this volume is young people who have just started to appreciate the world seriously. The author also wishes the book to be helpful to those who have been observing the

world, but who wish to appreciate it afresh from a different angle.
