

1. Record Nr.	UNINA9910149709403321
Autore	Kato Tsuyoshi <1961->
Titolo	Dynamical scale transform in tropical geometry // Tsuyoshi Kato (Kyoto University, Japan)
Pubbl/distr/stampa	New Jersey : , : World Scientific, , [2017] ©2017
ISBN	981-4635-37-5
Descrizione fisica	1 online resource (270 pages)
Disciplina	516.3/5
Soggetti	Tropical geometry Geometry, Algebraic
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from PDF file title page (viewed November 11, 2016).
Nota di bibliografia	Includes bibliographical references and index.
Sommario/riassunto	"This book provides comprehensive analysis of dynamical systems in tropical geometry, which include the author's significant discoveries and pioneering contributions. Tropical geometry is a kind of dynamical scale transform which connects real rational dynamics with piecewise linear one presented by max and plus algebras. A comparison method is given which estimates orbits corresponding to different rational dynamics by reduction to the piecewise linear dynamics. Both rational and piecewise linear dynamics appear in many important branches of mathematics. Tropical geometry can play a role or function to bridge between different subjects in mathematics. This book contains detailed accounts of basic strategy on how to apply tropical geometry to analysis in various mathematical subjects by presenting several applications which include: a rough classification of partial differential equations from the point of view of global behavior of solutions; construction of the infinite quasi-recursive rational dynamics, based on the automaton of the Burnside group by Aleshin-Grigorchuk; study on nearly periodicity of the pentagram map on the moduli space of the twisted polygons; spectral coincidence between lamplighter group in theory of automata groups and Box and ball systems corresponding to KdV equation in soliton theory. This book is self-contained, and

detailed accounts of theory of automata groups, BBS and the pentagram map are also included."--Publisher's website.
