1. Record Nr. UNINA9910254823103321

Titolo	The Musical-Mathematical Mind : Patterns and Transformations / / edited by Gabriel Pareyon, Silvia Pina-Romero, Octavio A. Agustín-Aquino, Emilio Lluis-Puebla
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
ISBN	3-319-47337-9
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XXIX, 345 p. 144 illus., 43 illus. in color.)
Collana	Computational Music Science, , 1868-0305
Disciplina	780.051
Soggetti	Application software Music Mathematics Computer science—Mathematics Computer Appl. in Arts and Humanities Mathematics in Music Mathematics of Computing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Introduction -- Extended Counterpoint Symmetries and Continuous Counterpoint -- A Survey of Applications of the Discrete Fourier Transform in Music Theory -- Gestures on Locales and Localic Topoi -- A Proposal for a Music Writing for the Visually Impaired -- Group Theory for Pitch Sequence Representation -- The Mechanics of Tipping Points -- Lexicographic Orderings of Modes and Morphisms -- Music of Quantum Circles -- Algebraic Combinatorics on Modes -- Proportion, Perception, Speculation -- Models and Algorithms for Music Generated by Physiological Processes -- Music, Expectation, and Information Theory -- Gestural Dynamics in Modulation: (Towards) A Musical String Theory -- The Sense of Subdominant: A Fregean Perspective on Music-Theoretical Conceptualization -- How Learned Patterns Allow Artist-Level Improvisers to Focus on Planning and Interaction During Improvisation -- Wooden Idiophones: Classification Through Phase Synchronization Analysis -- A Fuzzy Rule Model for

	High-Level Musical Features on Automated Composition Systems -- The Musical Experience Between Measurement and Computation -- Generic Additive Synthesis -- Dynamical Virtual Sounding Networks -- Melodic Pattern Segmentation of Polyphonic Music as a Set Partitioning Problem -- Diagrams, Games and Time (Towards the Analysis of Open Form Scores) -- On Minimal Change Musical Morphologies.
Sommario/riassunto	This book presents a deep spectrum of musical, mathematical, physical, and philosophical perspectives that have emerged in this field at the intersection of music and mathematics. In particular the contributed chapters introduce advanced techniques and concepts from modern mathematics and physics, deriving from successes in domains such as Topos theory and physical string theory. The authors include many of the leading researchers in this domain, and the book will be of value to researchers working in computational music, particularly in the areas of counterpoint, gesture, and Topos theory.