

We may simultaneously situate this monograph in a domain of the modern physics – Relativist Mechanics, as well as in one of mathematics – Pseudo-Euclidean Geometry, associated to linear spaces endowed with indefinite inner products. In both cases, we have to readjust fundamental notions like distance, angle and orthogonality. The resulting hyperbolic norms and metrics are restrained and super-additive. They lead us to the so-called *horistologies*, in opposition to *topologies*. Based on these new structures, the author suggests a variant of discreteness, in counterpart to continuity. Thus, we obtain a natural meaning for the notions *discrete set/function*.

The book is useful to students and researchers in Applied Mathematics and Theoretical Physics.

Prof. Dr. Nicolae Boja  
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This monograph approaches several problems of hyperbolic mathematics, particularly applied to universes of relativist events. It begins by recalling basic techniques from set theory, linear algebra, geometry, topology, functional analysis and from restrained relativity. The text is clear and precise. A lot of remarks and concrete examples sustain the theoretical arguments. Because topological structures reason away super-additivity, the author presents the *horistologies* as structures of discreteness, with the aim of unifying several fields of mathematics and physics, especially indefinite inner products, super-additive metrics, relativist and quantum physics.

This book mainly addresses to students in mathematics and physics, but generally, it is useful to anyone who is interested in operating with hyperbolic mathematics in problems of physics.

Prof. Dr. Radu Constantinescu  
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Trandafir T. BĂLAN

Complements of Hyperbolic Mathematics  
from Super - Additivity to Structural Discreteness

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Monographs in Applied Mathematics

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