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Descrizione fisica	1 online resource (IX, 230 p.)
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Note generali	"With 20 Figures."
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1. The Basic Spaces -- 2. The General Möbius Group -- 3. Length and Distance in ? -- 4. Other Models of the Hyperbolic Plane -- 5. Convexity, Area, and Trigonometry -- 6. Groups Acting on ? -- Solutions -- Further Reading -- References -- Notation.
Sommario/riassunto	The geometry of the hyperbolic plane has been an active and fascinating field of mathematical inquiry for most of the past two centuries. This book provides a self-contained introduction to the subject, suitable for third or fourth year undergraduates. The basic approach taken is to define hyperbolic lines and develop a natural group of transformations preserving hyperbolic lines, and then study hyperbolic geometry as those quantities invariant under this group of transformations. Topics covered include the upper half-plane model of the hyperbolic plane, Möbius transformations, the general Möbius group, and their subgroups preserving the upper half-plane, hyperbolic arc-length and distance as quantities invariant under these subgroups, the Poincaré disc model, convex subsets of the hyperbolic plane, hyperbolic area, the Gauss-Bonnet formula and its applications. This updated second edition also features: an expanded discussion of planar models of the hyperbolic plane arising from complex analysis; the hyperboloid model of the hyperbolic plane; brief discussion of generalizations to higher dimensions; many new exercises. The style and level of the book, which assumes few mathematical prerequisites, make it an ideal introduction to this subject and provides the reader

with a firm grasp of the concepts and techniques of this beautiful part
of the mathematical landscape. .
