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   Descrizione fisica   1 online resource (IX, 230 p.)

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   Soggetti   Geometry
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   Lingua di pubblicazione   Inglese

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   Livello bibliografico   Monografia

   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. .