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	Descrizione fisica	1 online resource (xvi, 132 pages) : digital, PDF file(s)
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	Nota di contenuto	; 1. Introduction. ; 1.1. The Schwarz-Christoffel idea. ; 1.2. History -- ; 2. Essentials of Schwarz-Christoffel mapping. ; 2.1. Polygons. ; 2.2. The Schwarz-Christoffel formula. ; 2.3. Polygons with one or two vertices. ; 2.4. Triangles. ; 2.5. Rectangles and elliptic functions. ; 2.6. Crowding -- ; 3. Numerical methods. ; 3.1. Side-length parameter problem. ; 3.2. Quadrature. ; 3.3. Inverting the map. ; 3.4. Cross-radio parameter problem. ; 3.5. Mapping using cross-ratios. ; 3.6. Software -- ; 4. Variations. ; 4.1. Mapping from the disk. ; 4.2. Mapping from a strip. ; 4.3. Mapping from a rectangle. ; 4.4. Exterior maps. ; 4.5. Periodic regions and fractals. ; 4.6. Reflections and other transformations. ; 4.7. Riemann surfaces. ; 4.8. Gearlike regions.
	Sommario/riassunto	This book provides a comprehensive look at the Schwarz-Christoffel transformation, including its history and foundations, practical computation, common and less common variations, and many applications in fields such as electromagnetism, fluid flow, design and

inverse problems, and the solution of linear systems of equations. It is an accessible resource for engineers, scientists, and applied mathematicians who seek more experience with theoretical or computational conformal mapping techniques. The most important theoretical results are stated and proved, but the emphasis throughout remains on concrete understanding and implementation, as evidenced by the 76 figures based on quantitatively correct illustrative examples. There are over 150 classical and modern reference works cited for readers needing more details. There is also a brief appendix illustrating the use of the Schwarz-Christoffel Toolbox for MATLAB, a package for computation of these maps.