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	Autore	Bechtel Sebastian
	Titolo	Square Roots of Elliptic Systems in Locally Uniform Domains / / by Sebastian Bechtel
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	Collana	Linear Operators and Linear Systems, , 2504-3617 ; ; 303
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	Soggetti	Differential equations Functional analysis Operator theory Functions of real variables Differential Equations Functional Analysis Operator Theory Real Functions
	Lingua di pubblicazione	Inglese
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	Nota di contenuto	Introduction -- Locally uniform domains -- A density result for locally uniform domains -- Sobolev extension operator -- A short account on sectorial and bisectorial operators -- Elliptic systems in divergence form -- Porous sets -- Sobolev spaces with a vanishing trace condition -- Hardy's inequality -- Real interpolation of Sobolev spaces -- Higher regularity for fractional powers of the Laplacian -- First order formalism -- Kato's square root property on thick sets -- Removing the thickness condition -- Interlude: Extension operators for fractional Sobolev spaces -- Critical numbers and Lp Lq bounded families of operators -- Lp-bounds for the H1-calculus and Riesz transform -- Calderón–Zygmund decomposition for Sobolev functions -- Lp bounds for square roots of elliptic systems -- References -- Index.
	Sommario/riassunto	This book establishes a comprehensive theory to treat square roots of elliptic systems incorporating mixed boundary conditions under minimal geometric assumptions. To lay the groundwork, the text

begins by introducing the geometry of locally uniform domains and establishes theory for function spaces on locally uniform domains, including interpolation theory and extension operators. In these introductory parts, fundamental knowledge on function spaces, interpolation theory and geometric measure theory and fractional dimensions are recalled, making the main content of the book easier to comprehend. The centerpiece of the book is the solution to Kato's square root problem on locally uniform domains. The Kato result is complemented by corresponding L bounds in natural intervals of integrability parameters. This book will be useful to researchers in harmonic analysis, functional analysis and related areas.