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Record Nr.	UNINA9910741186503321
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Titolo	Geometric Harmonic Analysis V : Fredholm Theory and Finer Estimates for Integral Operators, with Applications to Boundary Problems / / by Dorina Mitrea, Irina Mitrea, Marius Mitrea
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	3-031-31561-8
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (1006 pages)
Collana	Developments in Mathematics, , 2197-795X ; ; 76
Disciplina	515.42
Soggetti	Mathematical analysis Integral Transforms and Operational Calculus
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction and Statement of Main Results Concerning the Divergence Theorem -- Examples, Counterexamples, and Additional Perspectives -- Tools from Geometric Measure Theory, Harmonic Analysis, and functional Analysis -- Open Sets with Locally Finite Surface Measures and Boundary Behavior -- Proofs of the Main Results Pertaining to the Divergence Theorem -- Applications to Singular Integrals, Function Spaces, Boundary Problems, and Further Results.

Sommario/riassunto

This monograph presents a comprehensive, self-contained, and novel approach to the Divergence Theorem through five progressive volumes. Its ultimate aim is to develop tools in Real and Harmonic Analysis, of geometric measure theoretic flavor, capable of treating a broad spectrum of boundary value problems formulated in rather general geometric and analytic settings. The text is intended for researchers, graduate students, and industry professionals interested in applications of harmonic analysis and geometric measure theory to complex analysis, scattering, and partial differential equations.The ultimate goal in Volume V is to prove well-posedness and Fredholm solvability results concerning boundary value problems for elliptic second-order homogeneous constant (complex) coefficient systems, and domains of a rather general geometric nature. The formulation of the boundary value problems treated here is optimal from a multitude of points of

view, having to do with geometry, functional analysis (through the consideration of a large variety of scales of function spaces), topology, and partial differential equations.