1. Record Nr. UNINA9910300258003321 Autore Balinsky Alexander A Titolo The Analysis and Geometry of Hardy's Inequality / / by Alexander A. Balinsky, W. Desmond Evans, Roger T. Lewis Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2015 **ISBN** 3-319-22870-6 Edizione [1st ed. 2015.] Descrizione fisica 1 online resource (XV, 263 p. 3 illus.) Collana Universitext,, 0172-5939 Disciplina 512.97 Soggetti Mathematical analysis Analysis (Mathematics) Differential equations, Partial Mathematical physics Analysis Partial Differential Equations Mathematical Physics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Bibliographic Level Mode of Issuance: Monograph Hardy, Sobolev, and CLR inequalities -- Boundary curvatures and the Nota di contenuto distance function -- Hardy's inequality on domains -- Hardy, Sobolev, Maz'ya (HSM) inequalities -- Inequalities and operators involving magnetic elds -- The Rellich inequality. This volume presents advances that have been made over recent Sommario/riassunto decades in areas of research featuring Hardy's inequality and related topics. The inequality and its extensions and refinements are not only of intrinsic interest but are indispensable tools in many areas of mathematics and mathematical physics. Hardy inequalities on domains have a substantial role and this necessitates a detailed investigation of significant geometric properties of a domain and its boundary. Other topics covered in this volume are Hardy- Sobolev-Maz'ya inequalities; inequalities of Hardy-type involving magnetic fields; Hardy, Sobolev

and Cwikel-Lieb-Rosenbljum inequalities for Pauli operators; the Rellich inequality. The Analysis and Geometry of Hardy's Inequality provides an up-to-date account of research in areas of contemporary interest and would be suitable for a graduate course in mathematics or physics. A good basic knowledge of real and complex analysis is a prerequisite.