1. Record Nr. UNINA9910349316803321 Autore Fu Xiaoyu Titolo Carleman Estimates for Second Order Partial Differential Operators and Applications: A Unified Approach / / by Xiaoyu Fu, Qi Lü, Xu Zhang Pubbl/distr/stampa Cham: .: Springer International Publishing: .: Imprint: Springer. . 2019 **ISBN** 3-030-29530-3 Edizione [1st ed. 2019.] Descrizione fisica 1 online resource (xi, 127 pages): illustrations Collana SpringerBriefs in Mathematics, , 2191-8198 Disciplina 515 515.7242 Differential equations, Partial Soggetti System theory Partial Differential Equations Systems Theory, Control Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto 1 Introduction -- 2 Carleman estimates for second order elliptic operators and applications -- 3 Carleman estimates for second order parabolic operators and applications -- 4 Carleman estimates for second order hyperbolic operators and applications. This book provides a brief, self-contained introduction to Carleman Sommario/riassunto estimates for three typical second order partial differential equations, namely elliptic, parabolic, and hyperbolic equations, and their typical applications in control, unique continuation, and inverse problems. There are three particularly important and novel features of the book. First, only some basic calculus is needed in order to obtain the main results presented, though some elementary knowledge of functional analysis and partial differential equations will be helpful in understanding them. Second, all Carleman estimates in the book are derived from a fundamental identity for a second order partial differential operator; the only difference is the choice of weight functions. Third, only rather weak smoothness and/or integrability conditions are needed for the coefficients appearing in the equations. Carleman Estimates for Second Order Partial Differential Operators and

Applications will be of interest to all researchers in the field.	