Record Nr. UNINA9910790133103321 Autore Melnikov Yu. A Titolo Green's functions [[electronic resource]]: construction and applications // Yuri A. Melnikov, Max Y. Melnikov Berlin; ; Boston, : De Gruyter, c2012 Pubbl/distr/stampa **ISBN** 1-280-59764-X 9786613627476 3-11-025339-9 Descrizione fisica 1 online resource (448 p.) Collana De Gruyter studies in mathematics, , 0179-0986; ; 42 SK 470 Classificazione Altri autori (Persone) MelnikovMax Y Disciplina 515/.353 Soggetti Green's functions Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Green's functions for ODE -- Laplace equation -- Static Klein-Gordon equation -- Higher order equations -- Multi point-posed problems --PDE matrices of Green's type -- Diffusion equation -- Black-Scholes equation. Sommario/riassunto Green's functions represent one of the classical and widely used issues in the area of differential equations. This monograph is looking at applied elliptic and parabolic type partial differential equations in two variables. The elliptic type includes the Laplace, static Klein-Gordon and biharmonic equation. The parabolic type is represented by the classical heat equation and the Black-Scholes equation which has emerged as a mathematical model in financial mathematics. The book is attractive for practical needs: It contains many easily computable or computer friendly representations of Green's functions, includes all the standard Green's functions and many novel ones, and provides innovative and new approaches that might lead to Green's functions. The book is a useful source for everyone who is studying or working in

the fields of science, finance, or engineering that involve practical

solution of partial differential equations.