Record Nr. UNINA9910146291203321 Autore Dix Daniel Beach <1959-> Titolo Large-time behavior of solutions of linear dispersive equations / / Daniel B. Dix Pubbl/distr/stampa Berlin, Heidelberg:,: Springer-Verlag,, [1997] ©1997 **ISBN** 3-540-69545-1 Edizione [1st ed. 1997.] Descrizione fisica 1 online resource (XIV, 203 p.) Collana Lecture Notes in Mathematics;; 1668 Disciplina 515/.353 Soggetti Initial value problems Differential equations, Linear - Asymptotic theory Asymptotic expansions Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Bibliographic Level Mode of Issuance: Monograph Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Laplace expansions, outer regions -- Expansion in the inner region, Matching -- Uniformly Valid Expansions for large time -- Special Results for Special Cases -- Applications: Self-similar asymptotic approximations; Sharp Ls decay estimates, Smoothing Effects; Asymptotic balance for large time; Asymptotic behavior for large x --Reference -- Subject Index. This book studies the large-time asymptotic behavior of solutions of Sommario/riassunto the pure initial value problem for linear dispersive equations with constant coefficients and homogeneous symbols in one space dimension. Complete matched and uniformly-valid asymptotic expansions are obtained and sharp error estimates are proved. Using the method of steepest descent much new information on the regularity and spatial asymptotics of the solutions are also obtained. Applications to nonlinear dispersive equations are discussed. This monograph is intended for researchers and graduate students of partial differential equations. Familiarity with basic asymptotic, complex and

Fourier analysis is assumed.