1. Record Nr. UNINA9910257379003321 Autore Pilyugin Sergei Yu Titolo Shadowing and Hyperbolicity / / by Sergei Yu Pilyugin, Kazuhiro Sakai Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2017 3-319-65184-6 **ISBN** Edizione [1st ed. 2017.] Descrizione fisica 1 online resource (XIV, 218 p. 5 illus.) Collana Lecture Notes in Mathematics, , 0075-8434; ; 2193 Disciplina 515.352 Soggetti **Dynamics** Ergodic theory Dynamical Systems and Ergodic Theory Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Includes index. Preface -- 1 Main Denitions and Basic Results -- Lipschitz and Nota di contenuto H"older Shadowing and Structural Stability -- 3 C1 interiors of Sets of Systems with Various Shadowing Properties -- 4 Chain Transitive Sets and Shadowing -- References -- Index. Sommario/riassunto Focusing on the theory of shadowing of approximate trajectories (pseudotrajectories) of dynamical systems, this book surveys recent progress in establishing relations between shadowing and such basic notions from the classical theory of structural stability as hyperbolicity and transversality. Special attention is given to the study of "quantitative" shadowing properties, such as Lipschitz shadowing (it is shown that this property is equivalent to structural stability both for diffeomorphisms and smooth flows), and to the passage to robust shadowing (which is also equivalent to structural stability in the case of diffeomorphisms, while the situation becomes more complicated in the case of flows). Relations between the shadowing property of diffeomorphisms on their chain transitive sets and the hyperbolicity of such sets are also described. The book will allow young researchers in the field of dynamical systems to gain a better understanding of new

ideas in the global qualitative theory. It will also be of interest to

specialists in dynamical systems and their applications.