1. Record Nr. UNINA9910483912603321 Autore Bunke Ulrich Titolo Homotopy Theory with Bornological Coarse Spaces / / by Ulrich Bunke, Alexander Engel Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2020 **ISBN** 3-030-51335-1 Edizione [1st ed. 2020.] Descrizione fisica 1 online resource (VII, 245 p. 71 illus., 3 illus. in color.) Collana Lecture Notes in Mathematics, , 1617-9692;; 2269 514.24 Disciplina Soggetti K-theory Geometry Algebraic topology K-Theory Algebraic Topology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references and index. Sommario/riassunto Providing a new approach to assembly maps, this book develops the foundations of coarse homotopy using the language of infinity categories. It introduces the category of bornological coarse spaces and the notion of a coarse homology theory, and further constructs the universal coarse homology theory. Hybrid structures are introduced as a tool to connect large-scale with small-scale geometry, and are then employed to describe the coarse motives of bornological coarse spaces of finite asymptotic dimension. The remainder of the book is devoted to the construction of examples of coarse homology theories, including an account of the coarsification of locally finite homology theories and

of coarse K-theory. Thereby it develops background material about locally finite homology theories and C*-categories. The book is

via the theory of infinity categories.

intended for advanced graduate students and researchers who want to learn about the homotopy-theoretical aspects of large scale geometry