Record Nr. UNINA9910438148503321 Autore Bencsath Katalin A Titolo Lectures on finitely generated solvable groups [[electronic resource] /] / by Katalin A. Bencsath, Marianna C. Bonanome, Margaret H. Dean, Marcos Zyman New York, NY:,: Springer New York:,: Imprint: Springer,, 2013 Pubbl/distr/stampa **ISBN** 1-283-90905-7 1-4614-5450-6 Edizione [1st ed. 2013.] Descrizione fisica 1 online resource (62 p.) Collana SpringerBriefs in Mathematics, , 2191-8198 Disciplina 515.7242 Soggetti Group theory Combinatorics Algebra Commutative algebra Commutative rings **Group Theory and Generalizations** General Algebraic Systems Commutative Rings and Algebras 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. Nota di contenuto Foreword -- Preface.- Preliminaries.- Tools: Presentations and their Calculus.- Constructions -- Representations and a Theorem of Krasner and Kalouinine.- The Bieri-Strebel Theorems -- Finitely Generated Metabelian Groups -- An Embedding Theorem for Finitely Generated Metabelian Groups .- Sketch of Proof of Lemma 1.1 -- Theorem 2.1 Details -- Presenting an (Internal) HNN-Extension -- References. Lectures on Finitely Generated Solvable Groups are based on the Sommario/riassunto "Topics in Group Theory" course focused on finitely generated solvable groups that was given by Gilbert G. Baumslag at the Graduate School and University Center of the City University of New York. While knowledge about finitely generated nilpotent groups is extensive, much

less is known about the more general class of solvable groups containing them. The study of finitely generated solvable groups

involves many different threads; therefore these notes contain discussions on HNN extensions; amalgamated and wreath products; and other concepts from combinatorial group theory as well as commutative algebra. Along with Baumslag's Embedding Theorem for Finitely Generated Metabelian Groups, two theorems of Bieri and Strebel are presented to provide a solid foundation for understanding the fascinating class of finitely generated solvable groups. Examples are also supplied, which help illuminate many of the key concepts contained in the notes. Requiring only a modest initial group theory background from graduate and post-graduate students, these notes provide a field guide to the class of finitely generated solvable groups from a combinatorial group theory perspective.