1. Record Nr. UNINA9910300139503321

| | |
|---|---|
| Autore | Erdmann Karin |
| Titolo | Algebras and Representation Theory / / by Karin Erdmann, Thorsten Holm |
| Pubbl/distr/stampa | Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018 |
| ISBN | 3-319-91998-9 |
| Edizione | [1st ed. 2018.] |
| Descrizione fisica | 1 online resource (IX, 298 p. 59 illus.) |
| Collana | Springer Undergraduate Mathematics Series, , 2197-4144 |
| Disciplina | 512 |
| Soggetti | Associative rings<br>Associative algebras<br>Commutative algebra<br>Commutative rings<br>Group theory<br>Algebra, Homological<br>Associative Rings and Algebras<br>Commutative Rings and Algebras<br>Group Theory and Generalizations<br>Category Theory, Homological Algebra |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di contenuto | 1 Introduction -- 2 Algebras -- 3 Modules and Representations -- 4 Simple Modules in the Jordan-Hölder Theorem -- 5 Semisimple Modules and Semisimple Algebras -- 6 The Structure of Semisimple ALgebras - The Artin-Wedderburn Theorem -- 7 Semisimple Group Algebras and Maschke's Theorem -- 8 Indecomposable Modules -- 9 Representation Type -- 10 Representations of Quivers -- 11 Diagrams and Roots -- 12 Gabriel's Theorem -- 13 Proofs and Background -- 14 Appendix A: Induced Modules for Group Algebras -- 15 Appendix B: Solutions to Selected Exercises -- Index. |
| Sommario/riassunto | This carefully written textbook provides an accessible introduction to the representation theory of algebras, including representations of quivers. The book starts with basic topics on algebras and modules, |

covering fundamental results such as the Jordan-Hölder theorem on composition series, the Artin-Wedderburn theorem on the structure of semisimple algebras and the Krull-Schmidt theorem on indecomposable modules. The authors then go on to study representations of quivers in detail, leading to a complete proof of Gabriel's celebrated theorem characterizing the representation type of quivers in terms of Dynkin diagrams. Requiring only introductory courses on linear algebra and groups, rings and fields, this textbook is aimed at undergraduate students. With numerous examples illustrating abstract concepts, and including more than 200 exercises (with solutions to about a third of them), the book provides an example-driven introduction suitable for self-study and use alongside lecture courses.