1. Record Nr. UNISA996418188403316

| | |
|---|---|
| Autore | Fajardo William |
| Titolo | Skew pbw extensions : ring and module-theoretic properties, matrix and groÌbner methods, and applications / / William Fajardo, 5 others |
| Pubbl/distr/stampa | Cham, Switzerland : , : Springer, , [2020]<br>Â©2020 |
| ISBN | 3-030-53378-6 |
| Edizione | [1st ed. 2020.] |
| Descrizione fisica | 1 online resource (XV, 584 p.) |
| Collana | Algebra and Applications, , 1572-5553 ; ; 28 |
| Disciplina | 700 |
| Soggetti | Ring extensions (Algebra)<br>Noncommutative rings<br>Categories (Mathematics) |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di contenuto | Preface -- I Ring and Module-Theoretic Properties of Skew PBW Extensions -- II Projective Modules Over Skew PBW Extensions -- III Matrix and Gröbner Methods for Skew PBW Extensions -- IV Applications: The Noncommutative AlgebraicGeometry of Skew PBW Extensions -- References. |
| Sommario/riassunto | This monograph is devoted to a new class of non-commutative rings, skew Poincaré–Birkhoff–Witt (PBW) extensions. Beginning with the basic definitions and ring-module theoretic/homological properties, it goes on to investigate finitely generated projective modules over skew PBW extensions from a matrix point of view. To make this theory constructive, the theory of Gröbner bases of left (right) ideals and modules for bijective skew PBW extensions is developed. For example, syzygies and the Ext and Tor modules over these rings are computed. Finally, applications to some key topics in the noncommutative algebraic geometry of quantum algebras are given, including an investigation of semi-graded Koszul algebras and semi-graded Artin–Schelter regular algebras, and the noncommutative Zariski cancellation problem. The book is addressed to researchers in noncommutative algebra and algebraic geometry as well as to graduate students and advanced undergraduate students. |