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Titolo	Frobenius and Separable Functors for Generalized Module Categories and Nonlinear Equations [[electronic resource] /] / by Stefaan Caenepeel, Gigel Militaru, Shenglin Zhu
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Nota di contenuto	Part I: Entwined modules and Doi-Koppinen Hopf modules -- 1. Generalities -- 2. Doi-Koppinen Hopf modules and entwined modules -- 3. Frobenius and separable functors for entwined modules -- 4. Applications -- Part II: Nonlinear equations -- 5. Yetter-Drinfeld modules and the quantum Yang-Baxter equation -- 6. Hopf modules and the pentagon equation -- 7. Long dimodules and the Long equation -- 8. The Frobenius-Separability equation -- References -- Index.
Sommario/riassunto	Doi-Koppinen Hopf modules and entwined modules unify various kinds of modules that have been intensively studied over the past decades, such as Hopf modules, graded modules, Yetter-Drinfeld modules. The book presents a unified theory, with focus on categorical concepts generalizing the notions of separable and Frobenius algebras, and discussing relations with smash products, Galois theory and descent theory. Each chapter of Part II is devoted to a particular nonlinear equation. The exposé is organized in such a way that the analogies between the four are clear: the quantum Yang-Baxter equation is related to Yetter-Drinfeld modules, the pentagon equation to Hopf modules, and the Long equation to Long dimodules. The Frobenius-separability equation provides a new viewpoint to Frobenius and

separable algebras.
