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Quiver Representations (CMS Books In Mathematics)

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Ralf Schiffler

Quiver
Representations

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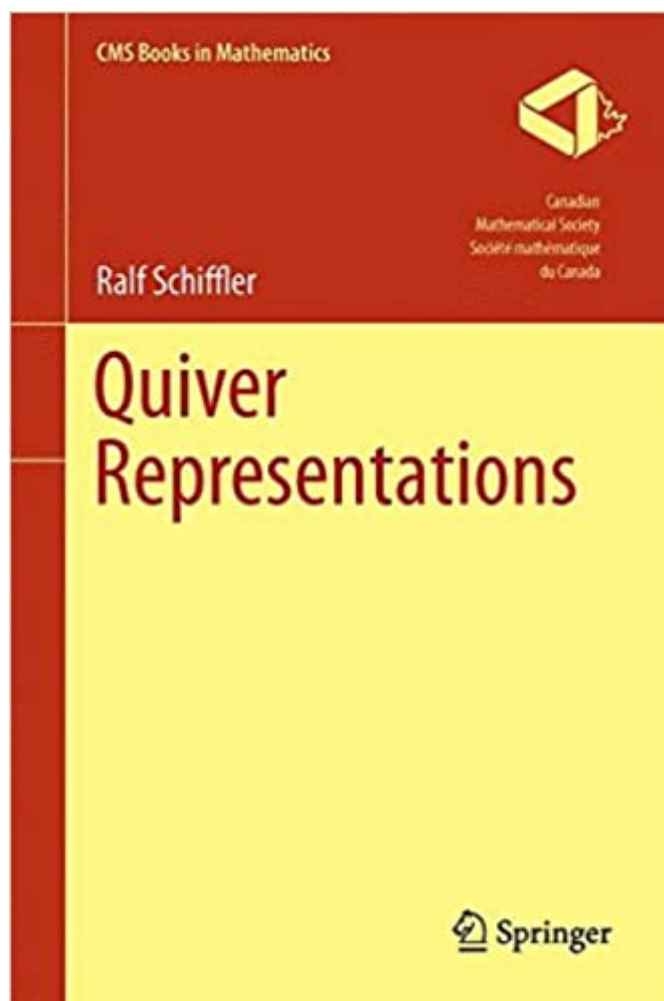
Synopsis

This book is intended to serve as a textbook for a course in Representation Theory of Algebras at the beginning graduate level. The text has two parts. In Part I, the theory is studied in an elementary way using quivers and their representations. This is a very hands-on approach and requires only basic knowledge of linear algebra. The main tool for describing the representation theory of a finite-dimensional algebra is its Auslander-Reiten quiver, and the text introduces these quivers as early as possible. Part II then uses the language of algebras and modules to build on the material developed before. The equivalence of the two approaches is proved in the text. The last chapter gives a proof of GabrielÃ¢â¬â„¢s Theorem. The language of category theory is developed along the way as needed.

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Customer Reviews

Ã¢â¬Å"This book is an excellent text for undergraduates or beginning graduate students. The virtues of the book can be amplified by an instructor willing to go faster for those who have some prior exposure to basic algebra, or to go slower for students starting ab ovo. Secondly, a non-expert (in representation theory of quivers) may also benefit from this book in several ways Ã¢â¬Â¦ . a reader will enjoy the clear and concise overview preceding each chapter and section.Ã¢â¬Â• (Alex Martsinkovsky, Mathematical Reviews, February, 2016)Ã¢â¬Å"The book under review is an elementary introduction to the diagrammatic or quiver approach to the representation theory of

finite-dimensional algebras. It is perhaps the first such textbook addressed to advanced undergraduates or beginning graduate students. Ã¢â ¬Â¦ Teaching a course from this book should be a pleasant experience. Sets of problems are provided at the end of every one of its chapters, and little notes point to the literature. For a motivated student, the book is well suited for self-study.Ã¢â ¬Â• (Felipe Zaldivar, MAA Reviews, December, 2014)

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A really superb exposition of a difficult subject. I highly recommend this to anyone interested in advancing their understanding of representation theory of algebras. Prof. Schiffler writes beautifully, and makes the material very clear.

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