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for Jordan
Pairs

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Steinberg Groups for Jordan Pairs

- Develops a unified theory of Steinberg groups, independent of matrix representations, based on the theory of Jordan pairs and the theory of 3-graded locally finite root systems
- Simplifies the case-by-case arguments and explicit matrix calculations made in much of the existing literature
- Offers new approaches and original concepts to add clarity to the study of Steinberg groups

The present monograph develops a unified theory of Steinberg groups, independent of matrix representations, based on the theory of Jordan pairs and the theory of 3-graded locally finite root systems. The development of this approach occurs over six chapters, progressing from groups with commutator relations and their Steinberg groups, then on to Jordan pairs, 3-graded locally finite root systems, and groups associated with Jordan pairs graded by root systems, before exploring the volume's main focus: the definition of the Steinberg group of a root graded Jordan pair by a small set of relations, and its central closedness. Several original concepts, such as the notions of Jordan graphs and Weyl elements, provide readers with the necessary tools from combinatorics and group theory. Steinberg Groups for Jordan Pairsis ideal for PhD students and researchers in the fields of elementary groups, Steinberg groups, Jordan algebras, and Jordan pairs. By adopting a unified approach, anybody interested in this area who seeks an alternative to case-by-case arguments and explicit matrix calculations will find this book essential.

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