# **CONTEMPORARY MATHEMATICS**

#### 765

# Quaternion Fusion Packets

### Michael Aschbacher



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Let p be a prime and S a finite p-group. A p-fusion system on S is a category whose objects are the subgroups of S and whose morphisms are certain injective group homomorphisms. Fusion systems are of interest in modular representation theory, algebraic topology, and local finite group theory.

The book provides a characterization of the 2-fusion systems of the groups of Lie type and odd characteristic, a result analogous to the Classical Involution Theorem for groups. The theorem is the most difficult step in a two-part program. The first part of the program aims to determine a large subclass of the class of simple 2-fusion systems, while part two seeks to use the result on fusion systems to simplify the proof of the theorem classifying the finite simple groups.





