

1030-94-61

Jay A. Wood* (jay.wood@wmich.edu), Department of Statistics, Western Michigan University, 1903 W. Michigan Ave., Kalamazoo, MI 49008-5278. *Character-theoretic proofs of equivalence theorems.*

In 1961, MacWilliams published a proof of her equivalence theorem: if there is a linear isomorphism between two linear codes of the same length over a finite field and the isomorphism preserves Hamming weight, then the isomorphism extends to a monomial transformation of the ambient space of the codes. There have since been a number of other proofs of this result, including one published in 1996 by Thann Ward and the speaker that made use of character theory. This talk will give a survey of generalizations of the equivalence theorem in the context of linear codes defined over finite rings or over finite modules. (Received July 13, 2007)