Codes Over Rings of Order 16

Steven Dougherty, Esengül Saltürk University of Scranton (USA)

Steve Szabo Eastern Kentucky University (USA)

mathematicianesen@gmail.com

Abstract

We study codes over finite commutative local Frobenius rings of order 16. We define a standard form for the generator matrix for linear codes over these rings. Finally, we describe the generating characters for each ring which produce MacWilliams relations for codes over these rings.

Keywords

Codes over local rings, Generator matrix, MacWilliams relations