Meeting: 1005, Newark, Delaware, SS 5A, Special Session on Designs, Codes, and Geometries

1005-05-34 **Anton Betten*** (betten@math.colostate.edu), Department of Mathematics, Colorado State University, Fort Collins, CO 80523. *A Classification of Optimal Linear Codes.*

In 1960, David Slepian writes: *"The task of analyzing group codes would be greatly simplified if a canonical form could be found for each equivalence class of Ω-matrices. That is, for a given n and k, we should like to be able to write down one generator matrix from each equivalence class. This would provide a simple means of describing each of the essentially different (n, k)-codes."* He then continues and presents enumeration formulae for the number of equivalence classes of codes. In the present talk, I will discuss how to solve the problem of classifying linear codes (the "group codes" of Slepian). (Received January 16, 2005)