Construction of MIMO MAC Codes Achieving the Pigeon Hole Bound

Toni Ernvall and Roope Vehkalahti
Turku Center for Computer Science and Department of Mathematics, University of Turku, Finland

Abstract

This paper provides a general construction method for multiple-input multiple-output multiple access channel codes (MIMO MAC codes) that have so called generalized full rank property. The achieved constructions give a positive answer to the question whether it is generally possible to reach the so called pigeon hole bound, that is an upper bound for the decay of determinants of MIMO-MAC channel codes.