

ERROR-CORRECTING CODES FROM k -RESOLVING SETS

ROBERT F. BAILEY

School of Science & Environment (Mathematics)
Grenfell Campus, Memorial University of Newfoundland
Corner Brook, NL A2H 6P9, Canada

e-mail: rbailey@grenfell.mun.ca

AND

ISMAEL G. YERO

Departamento de Matemáticas
Escuela Politécnica Superior de Algeciras
Universidad de Cádiz
11202 Algeciras, Spain

e-mail: ismael.gonzalez@uca.es

Abstract

We demonstrate a construction of error-correcting codes from graphs by means of k -resolving sets, and present a decoding algorithm which makes use of covering designs. Along the way, we determine the k -metric dimension of grid graphs (i.e., Cartesian products of paths).

Keywords: error-correcting code, k -resolving set, k -metric dimension, covering design, uncovering, grid graph.

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