

ERROR-CORRECTING CODES FROM k -RESOLVING SETS

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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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