

Multidimensional Costas Arrays

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A permutation array is a square binary matrix with a single 1 per row and per column. Costas arrays are permutation arrays where any two vectors joining entries with 1's are different. These arrays are useful in radar or sonar applications, digital watermarking and wireless communications. In this talk we present a multidimensional generalization of Costas arrays, extend the Welch and Lempel constructions to multiple dimensions and study some of their properties.

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