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Structural properties of Costas arrays

Costas arrays were introduced in 1965 for an application in sonar. Early research identified two infinite families, but it is still unknown whether there exists a Costas array of every order. We therefore wish to constrain the structure of Costas arrays in order to understand their existence pattern. In this talk, we present a short proof of a recent conjecture on Costas array structure by Russo, Erickson and Beard, by applying an old result due to Freedman and Levanon in a new context. We then introduce a new structural feature which also follows from the Freedman-Levanon result.