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"Ferrers diagram rank-metric codes and a conjecture of Etzion and Silberstein"

Abstract: Ferrers diagram rank-metric codes were introduced by Etzion and Silberstein in 2009 as linear spaces of matrices defined over a finite field, whose nonzero elements are supported on a given Ferrers diagram and have rank lower bounded by a fixed positive integer d. In the same work, Etzion and Silberstein proposed a conjecture on the largest dimension of a Ferrers diagram rank-metric code in terms of the defining parameters. Since stated, the conjecture has been verified in a number of cases, often requiring additional constraints on the field size or on the minimum rank d in dependence of the corresponding Ferrers diagram. As of today, this conjecture still remains widely open. I will report on joint work with Alessandro Neri and on our proof of the Etzion-Silberstein conjecture for the classes of strictly monotone and MDS-constructible Ferrers diagrams, without any additional restrictions.