

The geometry of one-weight linear rank-metric codes

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A one-weight code is an error-correcting code in which all the nonzero codewords have the same weight. In 1984, Bonisoli provided a classification of one-weight linear codes by leveraging the connection between codes equipped with the Hamming metric and projective systems, which represent their geometric counterparts. More recently, similar geometric techniques have been applied to the study of codes in the rank metric with maximum left idealizer. In this talk, we discuss general one-weight linear rank-metric codes without any further assumption. This is done by exploiting a new geometric framework based on the tensor representation of linear rank-metric codes. This is a joint work with Gianira N. Alfarano and Martino Borello.