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Alberto Ravagnani*, alberto.ravagnani@ucd.ie, and **Eimear Byrne**. *Asymptotic Enumeration and Coding Theory*.

We introduce the concept of a partition-balanced family of codes, and show how these families can be used to obtain precise asymptotic estimates for the number of codes that have a prescribed property (in various metrics).

As an application of our results, we prove the sparsity or density of codes that are extremal with respect to minimum distance, covering radius, and the related notion of maximality. In particular, we show that matrix MRD codes are not dense in the family of codes of a given dimension over $\text{GF}(q)$. This is in sharp contrast with the behaviour of MDS codes endowed with the Hamming metric and vector rank-metric codes. (Received September 14, 2018)