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Optimal configuration of points in quaternionic projective spaces

A set of points in a quaternionic projective space is an “optimal configuration” if it minimizes a certain potential function depending on the pairwise distances between points. Equiangular lines and mutually unbiased bases (MUBs) are important examples of such optimal configurations. We formulate a common generalization of several results in real and complex spaces that also hold in the quaternionic space. We also provide intriguing examples of such optimal configurations.