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Carlos M. Nicolas* (cmnicola@uncg.edu). *Minimum-size convex decompositions in d dimensions.*

For a set V of points in general position in the d -dimensional Euclidean space, a convex decomposition of V is a set of polytopes with disjoint interiors such that their union is the convex hull of V and the union of their vertex-sets is V . Let $G(V)$ be the minimum number of polytopes in a convex decomposition of V and let $g(n)$ be the maximum value of $G(V)$ among all sets V with n elements in general position. The problem of finding lower and upper bounds for $g(n)$ has been considered only for the plane ($d = 2$). In this talk I will present a construction that yields the first non-trivial lower bound for $g(n)$ in d dimensions for any $d > 1$. (Received September 20, 2011)