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David G. Larman* (d.larman@math.ucl.ac.uk), Mathematics Dept. University College London, Gower Street, London, WC1E 6BT, England, and **Natalia Garcia-Colin**. *Radon-type results arising from McMullen's projective set problem*. Preliminary report.

The well known problem of McMullen asks for the largest number v such that any set with v points in general position in d -space can be mapped, by a permissible projective transformation, onto the vertices of a convex polytope. This translates, via Gale diagrams, to finding the smallest number w such that any set X with w points can be partitioned into two sets A, B such that the convex hulls of $A \setminus \{x\}$ and $B \setminus \{x\}$ overlap for all $x \in X$. I conjectured, in 1972, that $v = 2d + 1$ (and hence $w = 2d + 3$). This remains unresolved for $d > 4$. I will discuss several results and conjectures around this problem. (Received February 27, 2007)