1047-12-162   **Kenneth B Stolarsky*** (`stolarsk@illinois.edu`), Mathematics Department, University of Illinois, 1409 W. Green Street, Urbana, IL 61801. *Positivity properties of Schoenberg's quadratic forms - a recurrent theme.* Preliminary report.

Recently some physicists studying eigenvalues of certain random distance matrices have rediscovered results, including positivity results, concerning Schoenberg's quadratic forms related to Cayley-Menger determinants. These results are well-known in the metric embedding community, but apparently this knowledge is not universal. We indicate how the Schoenberg quadratic forms are reappearing in a type of problem that originated long ago and in fact from the physics community (distribution of points on spheres). (Received January 27, 2009)