## ON THE VARIANCE OF THE VOLUME OF RANDOM POLYTOPES

## Ferenc Fodor, Alexandra Szabó

University of Szeged, Szeged, Hungary

We study the geometric properties of random polytopes that arise as the convex hull of n i.i.d. random points selected from a fixed convex body K in d-dimensional Euclidean space. In particular, we are interested in the variance of the volume of such random polytopes. Since the seminal works of Rényi and Sulanke (1963, 1964, 1968) a large part of results on random polytopes are asymptotic in nature, that is, valid under the assumption that  $n \to \infty$ . In this spirit, we are interested in upper and lower estimates of the order of magnituded of the variance of the volume of random polytopes in terms of n as  $n \to \infty$ . We consider some probability models in which such estimates are still missing.