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On the variance of the volume of random polytopes

We prove an asymptotic upper bound on the variance of the weighted volume of random polytopes which are generated by n independent random points selected from a d-dimensional convex body K according to a certain prescribed probability distribution. We only require K to have relatively weak smoothness properties. Using polar duality we convert these results into asymptotic upper bounds on the variance of the mean width of circumscribed random polyhedral sets about K. Joint work with Ferenc Fodor (University of Szeged, Hungary).

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