

Lower and upper bounds on the variances of spacings

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Abstract For classic i.i.d. samples with an arbitrary nondegenerate and finite variance distribution, Papadatos (1995, *Annals of the Institute of Statistical Mathematics*, 47, 185–193) presented sharp lower and upper bounds on the variances of order statistics, expressed in population variance units. We provide here analogous results for spacings. Also, we describe the parent distributions which attain the bounds.

Keywords Order statistic · Spacing · Variance · Sharp bound · Bernstein polynomial

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