

Comparing two approaches to the median of a random interval[†]

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SUMMARY

Random intervals allow modelling situations in which the variable of interest is not a real one, but the range of values one experiment can take. This underlying imprecision appears dealing with fluctuations, censored times or perceptions studied in many different fields, like Biomedical or Social Sciences and Engineering. As it happens with the mean in the real setting, the most usual central tendency measure (the Aumann type expected value) is too influenced by the existence of ‘extreme’ data or data changes. The idea of generalizing the concept of median because of its more robust behaviour has been already developed by means of the L^1 distance called generalized Hausdorff metric. A different approach could be stated by using the δ_1 distance. The aim now is to compare the previous notion of median with the one based on the δ_1 distance by means of some simulation studies.

Keywords: random interval, median, δ_1 distance, generalized Hausdorff metric

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