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Statistical inference about the median from vague data. (English) Zbl 0945.62038
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Summary: In traditional statistics all parameters of the mathematical model and possible observations should be well defined. Sometimes such assumption appears too rigid for the real-life problems, especially when dealing with imprecise or linguistic data. To relax this rigidity fuzzy methods are incorporated into statistics. This paper is devoted to statistical inference about the population median in the presence of vague data. We propose the notion of fuzzy median. Then we suggest a fuzzy estimator and fuzzy confidence interval for the median. Next we discuss the problem of hypothesis testing concerning the median in the presence of imprecise data. All methods presented are distribution-free.

MSC:

[62G05](#) Nonparametric estimation
[62G15](#) Nonparametric tolerance and confidence regions
[62G99](#) Nonparametric inference
[62G10](#) Nonparametric hypothesis testing

Cited in **12** Documents

Keywords:

[fuzzy numbers](#); [fuzzy sets](#); [sign-test](#); [vague data](#); [confidence interval](#); [hypothesis testing](#); [median](#)