

We would like to thank all the anonymous reviewers for their helpful comments and remarks that led to the improvement of our work. We tried to address all of the issues. New and corrected parts of the paper are specially highlighted in the file “diff.pdf” to better visualize them.

Below, we provide point-to-point answers to the reviewer’s comments (typed in blue).

Reviewer 1

- The application scenarios mentioned relates only to the papers of the author’s team. A more comprehensive review is recommended to fully illustrate the application value of the proposed method. In addition, the author should talk more about the application of real data in real cases (suggest an example), rather than just statistical theory.

The possible areas of the applications were reviewed in the following sentences (p. 4):

“On the other hand, in the epistemic bootstrap, a completely real-valued (i.e. “crisp”) sample is generated from a fuzzy-valued initial sample. It allows to use directly highly developed statistical tools for real-valued data (various statistical tests, point or interval estimators, etc.) without the need for transforming them into a “new fuzzy world”. Consequently, knowing statistical tools with suitable good properties, the areas of possible applications of epistemic fuzzy data may substantially expand. To explain it better, consider the following goodness-of-fit testing problem. In Lubiano et al. (2016) and Lubiano et al. (2017), the outcomes of the well-known questionnaire TIMSS-PIRLS 2011 performed by Spanish primary school pupils were considered, while in Ramos-Guajardo et al. (2019) experts’ perceptions about different characteristics of the Gamonedo blue cheese were discussed. In both cases, researchers dealt with subjective valuations expressed in natural language, which are inherently imprecise, and therefore modeled using ontic fuzzy sets. Thus, the problems mentioned above required the construction of appropriate statistical tools that would enable inferences to be made based on this type of data. Meanwhile, the epistemic variants of the classical Kolmogorov-Smirnov and Cramer-von Mises tests were directly used for fuzzy data concerning the lifetimes of street light equipment (Hesamian and Taheri, 2013) and electronic circuit thickness (Faraz and Shapiro, 2010) in Grzegorzewski and Romaniuk (2024). The obtained results were consistent with predictions concerning these real-life samples, like the behavior of the probability distributions of their originals (Gibbons and Chakraborti, 2010). The example related to the electronic circuit thickness is also considered further in this paper. Some other applications can be also found in (Grzegorzewski and Romaniuk, 2022a,c,b, 2024).”

Additionally, the real-life example concerning using our package was extended (pp. 12-13):

“Finally, we applied the KS two-sample test for the manufacturing data embedded in FuzzySimRes. These fuzzy data can be used to build the respective control charts to check the behavior of the underlying process (Faraz and Shapiro, 2010). But in our experiment, the sample was divided randomly into two parts to check if they came from the same distribution (so they were “not statistically different”).”

“Moreover, as Grzegorzewski and Romaniuk (2024) described, the epistemic KS test clearly indicates the issues caused by the troublesome 21st subsample. It makes the process out of control and results in the lower p-values in the goodness-of-fit tests.”

- There is some overlap between Figures 1 and 2. The authors should summarize them in one diagram that shows the structure of the package, the core functions, and the functionality implemented.

The two figures mentioned above were merged into one (see Fig. 1) that summarizes both possible applications of the package and the structure of the functions.

- A little proof-reading would be beneficial.

The paper was checked once again. If there are still language errors, we would like to ask about pointing them out.