Review of the paper titled "Integrating macroseismic intensity distributions by a probabilistic approach: an application in Italy" by Andrea Antonucci , Andrea Rovida , Vera D'Amico and Dario Albarello.

General comments

The paper introduces an improved probabilistic procedure for the estimation of intensities at a site taking into account the availability of intensities at neigboring localities. A large amount of intensity data in Italy is used. The methodology is applied to a historical earthquake with promising results, considering the uncertainties for an earthquake of the 16th century.

The authors have deep knowledge of the procedure, developed in their previous papers, and of the nature of data used.

It is therefore recommended that the paper is published with minor revisions.

Specific comments:

- Do the authors consider all IDPs used in the study have the same quality?
- I would not add a comma after e.g. or after i.e.
- Comment on Figures 8 and 10d: Observed Intensities seem to cover a more limited area than the synthetic with probability >90%. Would this imply for a larger earthquake magnitude? Please comment.
- L62: spatially close to the site of interest: assuming similar local soil conditions at these localities?
- L137-138: Comment: at 20 km distance, the possibility described in lines 128-129 is very low.
- L149: How is intensity 1-2 defined?
- L213: Which time period cover the seismic histories of the 28 localities?
- L213: More info is necessary on the decision for selection of the 28 localities.

Technical corrections:

L16: replace "data" with "values"
L26: add a comma after coordinates
L27: replace "sources" with "source"
L46: Postpischl 1980 not in reference list
L125: "at a pair" *or* "at pairs"
L162: replace "in the following" with "as below"
L414-416: Postpischl et al 1985 not in text
L429-431: Rovida et al 2021 not in text