

Geosci. Model Dev. Discuss., referee comment RC3
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Comment on gmd-2021-174

Anonymous Referee #3

Referee comment on "SciKit-GStat 1.0: a SciPy-flavored geostatistical variogram estimation toolbox written in Python" by Mirko Mälicke, Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2021-174-RC3>, 2022

General comments

The author has presented SciKit-Gstat, an open-source Python package for variogram estimation. The variogram is one of the analytical tools that was not widely used for geostatistical data analysis due to its limited availability of open-source packages. In this work, the author removes that barrier by introducing SciKit-Gstat, which users can use with little or no knowledge of Python. This package has several predefined algorithms and models such as variogram estimators, theoretical spatial models and binning algorithms. One of the most significant features of this package that allows it to be volatile for many applications is its flexible base class which can be tuned depending upon dataset and application. With comprehensive documentation, user guide, tutorials and good unit-test coverage, SciKit-GStat enables the user to focus on variogram estimation rather than implementation details.

A minor revision is needed to improve the manuscript before publication.

Minor comments

- A grid should be embedded in Figure 1 to make visualisation easier.
- A histogram can be plotted separately along with Figure 2 with fitted normal distribution so that it's easier to visualise data distribution and accuracy of prediction.
- A grid should be embedded in Figure 4 with more distinguishable colour bands to simplify visualisation.

- How did you plot figure 6? Which data is used? A paragraph on data description can be provided
- In figure 7, what does the legend show? a more descriptive legend should be provided.
- In figure 9, the axis should be labelled.
- Figure 10 can be redrawn with high resolution along with an axis labelled
- Make figure 11 a bit bigger