Interactive comment on "An improved Grassberger-Procaccia algorithm for analysis of climate system complexity" *by* Chongli Di et al.

Anonymous Referee #2

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An improved Grassberger-Procaccia (G-P) algorithm was proposed, which integrated the normal-based K-means clustering technique and Random Sample Consensus algorithm (RANSAC) for computing correlation dimensions. It is tested for computing correlation dimensions for the analysis of climate system complexity, and compared with traditional methods using the classical Lorenz and Henon chaotic systems. Proposed algorithm found to be better than the existing algorithms.

Comments: (1) Section 2.1 Algorithm for Computing Correlation Dimension may be reduced as correlation dimension is relatively old.

(2) Line 117-119 and Figure 1: Authors compared equations in terms of y =0.5x. What is R square value for both the equations and this also can be taken into consideration while judging superiority of methods.

(3) Line 125-140: Detailed information is provided and flow chart is also presented. Detailed information can be reduced as the flow chart is self explanatory.

(4) Figure 8: More discussion will help to understand the figure effectively.

(5) Utility of estimation of correlation dimensions for the future work in HRB can be briefly mentioned.