

## ***Interactive comment on “Time-clustering of wave storms in the Mediterranean Sea” by G. Besio et al.***

### **Anonymous Referee #1**

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1) Pag. 5, line 4: delete “of below” 2) Considering the buoy data, the authors analyse three different datasets on the base of their total duration: 20 year, 10 years and 5 years. The total duration of the dataset constrains the maximum available timescale that is respectively about 2 years, 1 year and 6 months. The AF computed for timescales above such maximum does not have so much sense. Figs. 5-7 show the AF for all the data in a time scale range between 0.1 days and about 300 days, which is only consistent with the 10 years long datasets. It would be probably better to show the AF taking into account the reliable maximum timescale for each group of datasets. 3) As rightly observed in the short comment by Serinaldi, the seasonality would affect the AF curve producing that “hump” centered at about 180 days. And this implies that the increase of the AF on the left-side of such “hump” is not a signature of fractal behavior. The suggestion to compare the AF curves of the original data with

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those obtained by a cyclic Poisson process is good. However, from a visual inspection it seems that before 20-50 days the AF appears well approximated by a straight line, and the interpretation as a signature of fractality or clustering at timescales below 20-50 days seems to be appropriate. 4) So, the authors may consider to focus their study only on the small timescale ranges for all the data, re-plot the figures and re-discuss the results accordingly. 5) As additional analysis, it would be better to show also the 95% confidence limit for the Poissonian surrogates at each of the considered timescale (in the range below 20-50 days) in order to check the significance of the clustering.

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