Nonlinear Processes
in Geophysics

Discussions

Interactive comment on "A general theory on frequency and time-frequency analysis of irregularly sampled time series based on projection methods. I. Frequency analysis" *by* Guillaume Lenoir and Michel Crucifix

Anonymous Referee #1

Received and published: 9 September 2017

Review of "A general theory on frequency and time-frequency analysis or irregularly sampled time series based on projection methods. I. Frequency analysis. " by Lenoir and Crucifix

Recommendation: Minor revisions

The manuscript develops a new method to analyse irregularly sampled time series which is very important for paleoclimate time series. This is a very useful contribution to data analysis. The manuscript is well written, though I needed to get used to the

mathematical notion. I recommend to accept this manuscript after the authors have addressed my below points.

1) How long can the "gaps" in the time series be? How irregular can the time series be? This should be discussed.

2) Eq. (13): The notation of the SDE does not make sense to me. White noise is not differentiable. Wouldn't it make more sense to write the MA part as an memory kernel?

3) Does your significance test also test for trend significance?

4) All references in the manuscript are in the style (Author, year) but in many cases it should be Author (Year). This should be corrected.

5) Page 18, line 7: "This it" should be "This is"