

## ***Interactive comment on “A high-resolution $\delta^{18}\text{O}$ record and Mediterranean climate variability” by C. Taricco et al.***

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The paper “A high-resolution  $\delta^{18}\text{O}$  record and Mediterranean climate variability” by C. Taricco et al. presents a foraminiferal record from the Ionian Sea, covering the 707BC – 1979 AD period. The record is analysed by Singular Spectrum Analysis (SSA) that allows identifying some high significant oscillations. The analyses confirm the results the authors obtained for a shorter period, giving also evidence of a good agreement with other northern hemisphere proxy records.

The paper focuses on a very interesting issue, it is well-written and the methods used to analyse the data are appropriate.

The main deficit of the paper is that it is not easy to get which results are really new

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with respect to previous papers of the authors on the same issue. I suggest therefore to extend the introduction in order to clearly explain what results are already available, what are the main open issues and how this paper can help to better investigate them. The main goal should be to highlight the needing of the to main issues of this paper: the analysis of a wider time period and a better comparison with other Europe and northern hemisphere proxy records over about the last 1000 years. The extended version of the introduction should also include some parts of section 3 as e.g. rows 13-18 of page 6, which are now under the “results and discussion” but actually refer to previous papers.

Minor comments:

I suggest to add a short section aiming at giving a brief explanation of the SSA method, of the MC-SSA test and of the problems connected with the width of the windows used for data analysis. The goal should be to make the paper more independent from previous papers as Ghil and Taricco (1997) and Ghil et al. (2002).

As far as data analysis is concerned, I think it were interesting to see also the SSA results obtained considering only the new period presented in this paper. In this way the old and the new results were independent from each other and the comparison were probably more interesting, especially for the oscillations that can be investigated with the length of the new period.

Why does the core end in 1979?

What does it mean that “these two modes also give the most important contributions to the net modern NH temperature rise (page 9 – rows 12-14)”? Do the authors suggest that global warming (at least up to 1979) may be significantly influenced by the 200-year oscillation?

The caption of figure 6 is not consistent with the figure: the range is  $-0.6 - +0.6$  °C.