

Terrassa, Barcelona, Spain, April 3, 2018

Manuscript number: ESD-2017-79

Title: Quantifying changes in surface air temperature dynamics over several decades

Authors: D. Zapalla, M. Barreiro and C. Masoller

We have answered the comments of the two referees:

Taking into account the Editor's request, we have revised the main manuscript (in page 3, red color) and the *Supporting Information* (last sentences in the section "Overview of Hilbert transform") to clarify that the reconstruction of the time series $x(t)$ is, within the limits of numerical precision, exact; however, the values of amplitude, phase and frequency, taken separately, near the extremes of the series deviate from the true values.

Sincerely yours

A handwritten signature in black ink, appearing to read 'C. Masoller', with a long horizontal flourish extending to the right.

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