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Climate of the Past Discussions

Interactive comment on "Twelve thousand years of dust: the Holocene global dust cycle constrained by natural archives" *by* S. Albani et al.

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Dear Fabrice,

thank you for the extended discussion.

The error propagation formula for the case of multiplication is applied in Equation 2. The ratio epsilon/mu represents the relative error, i.e. the error divided by the absolute value it refers to. The details of how SBMAR and EC were derived, and what the explanation is for the estimation of the errors, are reported for each record in the Supplement – see the individual "descriptive sheets". The cases we encountered are discussed in Section 2 for specific types of archives, as well as in the Methods Section 3.3. As described in the text, some of these errors indeed are associated to replicate mea-

surements of the same sample, like we report for Antarctic ice cores' EC associated to Coulter Counter measurements for instance, or as is the case thorium measurements. In those cases mu represents the average of the measurements, and more in general it is the absolute value. We will clarify this in the text. On the other hand in other cases the uncertainty is arbitrarily assigned based on an expert informed guess, given the lack on information in the literature on specific estimates. We think that it is reasonable to treat the errors as Gaussian in absence of better constraints, also considering the fact that this assumption is definitely of second order importance given the available information.

Best, Samuel Albani and co-authors

Interactive comment on Clim. Past Discuss., 10, 4277, 2014.