

Interactive comment on “A new device to mount portable energy dispersive X-ray fluorescence spectrometers (p-ED-XRF) for semi-continuous analyses of split (sediment) cores and solid samples” by Philipp Hoelzmann et al.

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Author's response: We thank the anonymous referee #1 for his valuable comments that help to improve our manuscript. We incorporated the proposed changes of referee #1 and report these herewith.

In the manuscript we now clarified the close link to the article Klein et al. (2016) and our intention to describe the technical and methodological details of the newly introduced sample chamber and to present an application example (p. 2, lines 09-12).

- define b.s. => p. 2, line 35 - define TOC => total organic carbon; p. 8, line 02 - define C1

TIC => total inorganic carbon; p. 7, line 13

A description of the other elements not detected by XRF, like C have been added to the manuscript (p. 6, line 11 – p. 7, line 04).

We have difficulties to understand comment #4 of referee #1 that asks for a general description of the choice of filter and voltage combinations to enhance certain elements or groups of elements. In our opinion this information is described in detail in the section 2.3 Methods (p. 3, line 27 to p. 4, line 04). The specification of the foils used as appropriate filters for the different elements is closed information and not made public by the NITON company. If additional information is needed, we kindly ask referee #1 to be more specific. However, in section 2.3 we made clear that stacked foils were used as filters for the measurements “low”, “light”, and “high” (p. 3, line 31 to p. 4, line 01). All technical corrections of referee #1 were implemented. We avoided in the new version of the manuscript to state the “German industrial property right number” in all detail repeatedly and now mention the details only in the abstract, the introduction, the conclusions, and the acknowledgements. A final remark as kind of an outlook to a possible automation has been added to the manuscript (p. 12, line 21-23).

All corrections in the new version of our manuscript are marked in the attached supplementary file.

Please also note the supplement to this comment:

<http://www.geosci-instrum-method-data-syst-discuss.net/gi-2016-33/gi-2016-33-AC1-supplement.pdf>

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