

Reply to Hong Wang's review

We are grateful for your constructive review, Dr Wang, and feel that your comments are highly valuable contributions to the discussion of our manuscript and help improving our manuscript.

1. phytoliths and their fingerprinting in sediment

we are grateful for this comment that might help to also consider as potential C4 excursions, the events at 8.2-8.3m and 12-12.05m, that occurred about 100-150 years and 300-400 years during the [30.7 - 32.9kyr] and [42.0 - 50.4kyr] intervals respectively. We added a paragraph for these points (§ 3.2 Lines 300-307).

2. C4 dicots and monocots

thank you for this paleoecology point of view that is helpful to explain short episodes as the most recent ones. Annual dicots need less time to expand than perennial plants. We added a paragraph for this point (§ 2.1 Lines 145-147 for modern situation and § 4.2 Lines 344-354 for probable past situation).

3. many thanks for your proposition we already followed. Our team was on field in Bulgaria last summer.

4. others

* we brought back figures and legends between figures 3 and 4.

* we added keys stratigraphic units in Figures 2 and 3.

* table 1: the style of the journal is to use a "space" instead of a comma for large numbers (e.g. 53 000).

* We separated both tables in table 1 (for IRSL) and table 2 (for ^{14}C) and we extended table 1 by adding U and Th contents and dose. Further information can be found in Fuchs et al. 2008.

* page 196, line 6: Hatté et al. (2001c) should effectively be Hatté et al. (2001b)

* page 200, line 23: we added the Lezine et al. 2010 missing reference

* page 203, line 24: it is effectively Krichak and Alpert (2005).