

Dear Olivier,

Thank you for taking the time to edit this manuscript. Your comments and guidance have helped improve this manuscript considerably. Below, all points raised (in black) are addressed (with responses in blue). All the suggested changes have been included in the new version of the manuscript.

Some typos / corrections:

- page 2, line 47: would be nice to specify page number when referencing to a book (here at some other places; e.g. line 115)

The page number references have been added.

- Eq. (1): would the sign \approx instead of $=$ be more appropriate here? To my understanding it is an approximation of the stress, not its exact value.

We agree, the $=$ sign has been changed to \simeq .

- page 4, line 10: QUAD9 is a bit specific to the library you are using. Quadrangle with 9 nodes would be more general?

We agree, we replaced "QUAD9" by "9 node quadrangle" at line 100.

- line 143: see Fig. 2 for illustration. (and at many other places in the text, check this and refer to TC rules).

Figure and equation references have been updated according to the TC rules.

- line 156: J_2 and σ_e are used alternatively in the text and figure caption, which is a bit confusing. Can you chose one notation for the von Mises stress and keep to it? For example, line 229, in the text it is J_2 (without hat) and σ_e in the legend of Fig. 8 (with an hat). Should be the same.

σ_e is now the notation used in the whole manuscript. However, in the legend of Fig. 8, the hat is relevant as it is a scaled version of the von Mises stress.

- line 265: "removal of the ice downstream". I think what you mean is the downstream propagation of a crevasse? There is no ice removal here, just the propagation of the opening of the crevasse?

We agree, this was not clear, "removal of the ice downstream" has been replaced by "downward propagation of the crevasse" (lines 264-265).