

Interactive comment on “Flexural behaviour of selected plants under static load” by F. J. Sutli et al.

Anonymous Referee #4

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General comments:

The MS deals with the mechanical properties of vegetation in order to stabilize river-bank. The main point of the MS is the introduction of the angle of flexibility as an indicator of such properties. Most of time, the MS is not very clear and some important elements for the reader are missing (citations, global context of the study). Moreover, many citations are in German and so, not easily readable by the international community.

The authors are invited to make major correction in the MS.

Specific comments:

Abstract / Introduction:

These points are not precise enough particularly to explain: (i) the link between the flexibility and the control of erosion (Is it as important as root anchorage for example). (ii) why the static point of view is adapted to solve a dynamical problem (iii) the link between mechanical parameters of a single tree with mechanical parameters of a stand (A stand would dissipate more energy than a single tree, is the porosity of a stand important ?).

Could you introduce citations after “knowledge about the interaction” ?

M&M's

(i) number the equation (ii) The angle of flexibility is the main point of this part. The relevance of this parameter is depending of how you will use it to study control of erosion. Perhaps, you can explain more the global context of work in the introduction in order to convince the reader about the pertinence of the angle of flexibility as an indicator. (iii) Most of time mechanical rupture studies is based on the rupture deformation (which is depending on f, l, d as flexibility angle). The interest of flexibility angle could be argue by comparison with the deformation. (iv) Citations after “right after flooding”, “able to regenerate”.

Results:

The figure 8 is very good. However, how do you make this figure e.g. how do you take care about the variability of your measurement ?

Technical corrections

(i) “and shown in the monogram in Fig” . . . 8 is missing (ii) I think the fig9 is a reference to fig8. (iii) Could you make a table with you parameters and notations.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 1459, 2010.

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Interactive Discussion

Discussion Paper

