

Interactive comment on “Flow resistance of vegetated oblique weir-like obstacles during high water stages” by S. Ali and W. S. J. Uijtewaal

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Received and published: 23 July 2013

We thank this reviewer for his/her thorough review and appreciate the comments. The detailed responses to the individual comments are provided in the bold font below the each comment.

General comments.

P5492 L1: "At high water stages obstacles in the flood plains of a river contribute to the flow resistance and hamper the conveyance capacity" With respect to submerged obstacles (surface roughness), I would expect the effect of the obstacles to be less for high water level floods. I suppose you mean elevated vegetation (such as trees), this may be clarified.

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This line has been revised as “At high water stages obstacles (submerged and particularly emerged vegetation) in the flood plains of a river contribute to the flow resistance and hamper the conveyance capacity”

P5509 L1: The Villemonte (1947) relationship may be displayed as an equation for clarity

The Villemonte (1947) relationship has been added.

Minor comments

P5492 L16: over-topped instead of "overflooded"

Corrected

P5492 L20: vegetated areas instead of "... in cases with vegetation growing on top"

Corrected as “vegetated area on the them”

P5493 L7: The statement "in his report (in German)" is rather unnecessary; this information would be better displayed in the bibliographic section.

"in his report (in German)" this piece of text has been removed

P5493 L9-20: It is suggested that this section of the introduction may be improved. It may be in the form of a discussion, rather than just stating what the previous authors have done.

Revised

P5504 L4: "... head loss disappears..." is rather strong, consider using the statement "tends to zero" Incorporated

P5505 L3-5: the grammar could be improved.

The sentence has been revised as: “For this case, we consider the perpendicular component of the velocity with respect to the weir, it could straightforwardly be treated

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as a standard imperfect weir.”

P5505 L11: the word "bigger" could be replaced with either greater or larger.

The word "bigger" has been replaced by “larger”

P5505 L17: the term "the gravels" could be replaced with "gravel of diameter..” Done

P5505 L19-20: the statement "The water for the experiments was taken from and returned to the main circulation system of in the laboratory" is rather trivial and may be omitted.

Omitted

P5506 L15: consider using "For supercritical flow" rather than "With supercritical flow"

Done

P5506 L16-19: the paragraph should be rewritten to improve the clarity.

The paragraph has been narrated as:

The experiments were conducted for different flow conditions, the selected discharges were 20, 25, 30, 35 and 40 L /s. The downstream water level was gradually varied from one experiment to the other to get different flow states from completely submerged to free flow regime.

P5507 L10: the term LDA could be elaborated.

Laser Doppler Anemometer (LDA) Incorporated

P5507 L22: without instead of " ... with out ..." Corrected

P5508 L4: from instead of "... between the form top to ..."

Corrected

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P5509 L24: consider using the statement "For low downstream water levels ..." instead of "For small downstream"

Corrected

P5510 L1: "compared to" instead of "compare to"

Corrected

P5510 L20: consider using the statement "...submergence is lower than 0.8 ..."

Corrected as "submergence < 0.8"

P5511 L2: consider using the statement "...in some cases..." instead of " ... in some case ..."

Corrected

P5511 L5: did you mean to say " ... regions that are not in contact with the walls."

"Wall effects" on the flow dominates in the vicinity of the wall. Here means "regions where the wall effects are diminished" .

This is cleared in the text.

P5511 L14: consider using lower rather than smaller.

Corrected

P5513 L15: consider using "... have been obtained." given that this is reported speech of what was already achieved.

Corrected

P5513 L20: consider changing the statement to "For low downstream water levels, there ..."

Corrected

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