

Interactive comment on “Uniform flow formulas for irregular sections” by E. Spada et al.

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Received and published: 4 May 2015

Three-dimensional modelling needs to be corrected or removed before publication.

1. Something fundamentally wrong with your 3D simulation with CFX. It can be seen from your “Fig. 1. Streamwise vertical profile along the longitudinal axis of the mean channel” that your vertical velocity profiles are not logarithmic and they are decreasing (turning back) near the free surface. The modelled part of your river is almost straight and without any vegetation where you expect almost logarithmic velocity profiles (see simulated profiles in Anderson et al., 2014, Rameshwaran et al, 2011, Shen and Diplas 2010).

2. Application of Ansys (2010) method needs to be sorted. In Anderson et al. (2014), Ansys (2010) method was applied on irregular river bed geometry mesh. Your bed

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seems to be flat in the simulation (like smooth ks case of Anderson et al., 2014). Is the Ansys (2010) method applicable for your case?

Anders G. Anderson, J. Gunnar I. Hellström, Patrik Andreasson & T. Staffan Lundström (2014) Effect of Spatial Resolution of Rough Surfaces on Numerically Computed Flow Fields with Application to Hydraulic Engineering, *Engineering Applications of Computational Fluid Mechanics*, 8:3, 373-381, DOI: 10.1080/19942060.2014.11015522

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 12, 2607, 2015.

HESD

12, C1301–C1302, 2015

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