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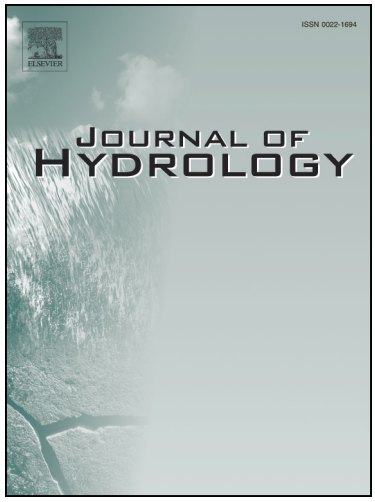

Research papers

Experimental calibration and validation of sewer/surface flow exchange equations in steady and unsteady flow conditions

Matteo Rubinato, Ricardo Martins, Georges Kesserwani, Jorge Leandro, Slobodan Djordjević, James Shucksmith

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ACCEPTED MANUSCRIPT

Experimental calibration and validation of sewer/surface flow exchange equations in steady and unsteady flow conditions

Matteo Rubinato[a,*], Ricardo Martins[a,b,c], Georges Kesserwani[a], Jorge Leandro[d,b,c], Slobodan Djordjević[e], James Shucksmith[a]

[a]*Dept. of Civil and Structural Engineering, Mappin Building, S1 3JD University of Sheffield, Sheffield, UK*
[b]*MARE - Marine and Environmental Sciences Centre, Department of Civil Engineering, Faculty of Sciences and Technology, University of Coimbra, 3004-517 Coimbra, Portugal*
[c]*IMAR - Institute of Marine Research, Faculty of Sciences and Technology, University of Coimbra, 3004-517 Coimbra, Portugal*
[d]*Department of Civil, Geo and Environmental Engineering, Chair of Hydrology and River Basin Management, Technical University of Munich, Arcisstrasse 21, 80333 Munich, Germany*
[e]*Centre for Water Systems, University of Exeter, North Park Road, Exeter EX4 4QF, UK*

Abstract

The linkage between sewer pipe flow and floodplain flow is recognised to induce an important source of uncertainty within two-dimensional (2D) urban flood models. This uncertainty is often attributed to the use of empirical hydraulic formulae (the one-dimensional (1D) weir and orifice steady flow equations) to achieve data-connectivity at the linking interface, which require the determination of discharge coefficients. Because of the paucity of high resolution localised data for this type of flows, the current understanding and quantification of a suitable range for those

*Corresponding author
Email addresses: m.rubinato@sheffield.ac.uk (Matteo Rubinato), Ricardo.Martins@sheffield.ac.uk (Ricardo Martins), g.kesserwani@shef.ac.uk (Georges Kesserwani), jorge.leandro@tum.de (Jorge Leandro), S.Djordjevic@exeter.ac.uk (Slobodan Djordjević), j.shucksmith@sheffield.ac.uk (James Shucksmith)

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