

References

- ABBOTT, M.B. (1979). *Computational hydraulics. Elements of the theory of free-surface flows*. Pitman, London.
- ACKERS, P., WHITE, W.R. 1980. "Bed material transport: a theory for total load and its verification". *International Symposium on River Sedimentation, Beijing, China, March 1980*, 249-268.
- ARMANINI, A., DI SILVIO, G. (1988). "A one-dimensional model for the transport of a sediment mixture in non-equilibrium conditions". *Journal of Hydraulic Research*, 26, 275-292.
- ARMANINI, A., LARCHER, M. (2001). "Rational Criterion for Designing of Slit-Check Dam". *Journal of Hydraulic Research*, IAHR, 127(2), 94-104.
- ARMANINI, A., CAPART, H., FRACCAROLLO, L., LARCHER, M. (2005). "Rheological stratification in experimental free-surface flows of granular-liquid mixtures". *Journal of Fluid Mechanics*, 532, 269-319.
- AUDUSSE, E. (2005). "A multi-layer Saint-Venant model: derivation and numerical validation". *Discrete and continuous dynamical systems-series B*, 5(2), May 2005, 189-214.
- BELL R.G., SUTHERLAND A.J. (1983). "Non-equilibrium bed load transport by steady flow". *Journal of Hydraulic Engineering*, ASCE, 109(3), 351-367.
- BELLAL, M., SPINEWINE, B., SAVARY, C., ZECH, Y. (2003). "Morphological evolution of steep-sloped river beds in the presence of a hydraulic jump: Experimental study". *Proceedings of XXX IAHR Congress, Thessaloniki, Greece, August 2003*, Vol. C-II, 133-140.
- BELLAL, M., IERVOLINO, M., ZECH, Y. (2004). "Knickpoint migration process: experimental and numerical approaches". *Proceedings 12th conference on "sediment and sedimentation particles"*, Prague, Czech Republic, September 2004.

- BELLAL, M., SAVARY, C., ZECH, Y. (2005). "Morphological evolution of steep-sloped river beds in the presence of a hydraulic jump: Numerical and experimental analysis". *Proceedings of XXXI IAHR Congress, Seoul, Korea, September 2005*, Theme C-05, 1522-1533.
- BRASCHI, G., GALLATI, M. (1992). "A conservative flux prediction algorithm for the explicit computation of transcritical flow in natural streams". *Hydraulic Engineering Software IV: Fluid flow modelling*, Computational Mechanics Publications, Southampton, 381-394.
- BREUSERS, H.N.C. (1967). "Time-scale of two-dimensional local scour". *Proceedings of XII IAHR Congress, Fort Collins*, Volume 3, C321-8.
- BURSH, L.M., WOLMAN, M.G. (1960). "Knickpoint behavior in non-cohesive material: A laboratory study". *Bulletin of Geological American Society*.
- BUSNELLI, M.M., STELLING, G.S., LARCHER, M. (2001). "Numerical morphological modeling of open-check dams". *Journal of Hydraulic Engineering*, 127(2), 105-114.
- CAPART, H., BELLAL, M., BOXUS, L., DE ROOVER C., ZECH, Y. (1998). "Approach to morphological equilibrium for steep-sloped river beds". *River sedimentation - Theory and Applications, Proceedings of the seventh International Symposium on River Sedimentation, Hong-Kong, Japan, December 1998*, 231-237.
- CAPART, H. (2000). "Dam-break induced geomorphic flows and the transition from solid- to fluid-like behaviour across evolving interfaces". PhD thesis, Université catholique de Louvain, Louvain-la-Neuve, Belgium.
- CAPART, H., YOUNG, D.L. (2002). "Two-layer shallow water computations of torrential geomorphic flows". *Proceedings of River Flow 2002, Louvain-la-Neuve, Belgium, September 2002*, 1003-1012.
- CAPART, H., YOUNG, D.L., ZECH, Y. (2002); "Voronoi imaging methods for the measurement of granular flows". *Experiments in Fluids*, 32, 121-135.

- CAPART, H. (2004). *Shallow flow*. Lecture notes, National Taiwan University
- CAPART, H., BELLAL, M., YOUNG, D.L. (2006). “Self-similar evolution of semi-infinite alluvial channels with moving boundaries”. *Journal of Sedimentary Research*, 76, 7-17.
- CASTRO, M.J., GARCÍA-RODRÍGUEZ, J.A., GONZÁLEZ-VIDA, J.M., MACÍAS, J., PARÉS, C., VÁSQUEZ-CENDÓN, M.E. (2003). “Numerical simulation of two-layer shallow water flows through channels with irregular geometry”. *Journal of Computational Physics*, 195, 202-235.
- CHEN, S.C., PENG, S.H., CAPART, H. (2007). “Two-layer shallow water computation of mud flow intrusions into quiescent water”. *Journal of Hydraulic Research*, 45(1), 13–25.
- CORREIA, L.R.P., KRISHNAPPAN, B.G., GRAF, W.H. (1991). “Laboratory verification of a coupled unsteady flow model”. *Proceedings of XXIV IAHR Congress, Madrid, Spain, 1991*, A471-A480.
- CORREIA, L.R.P., KRISHNAPPAN, B.G., GRAF, W.H. (1992). “Fully coupled unsteady mobile boundary flow model”. *Journal of hydraulic Engineering*, 118(3), 476-494.
- CORREIA, L.R.P. (1992). “Numerical modelling of unsteady sediment transport”, PhD thesis, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland.
- CUNGE, J.A., PERDREAU, N. (1973). Mobile bed fluvial mathematical model. *La Houille Blanche* 7, 561-570.
- CUNGE, J.A., HOLLY, F.M., VERWEY, A. (1980). *Practical aspects of computational river hydraulics*. Pitman Advanced Publishing Program, London.
- DARGAHI, B. (2003). “Scour development downstream of a spillway”. *Journal of Hydraulic Research*, 41(4), 417-426.

- DAUBERT, A., LEBRETON, J.C. (1967). "Etude expérimentale et sur modèle mathématique de quelques aspects des processus d'érosion des lits alluvionnaires, en régime permanent et non permanent". *Proceedings of XII IAHR Congress*, 3 (in French).
- DE VRIES, M. (1965). "Consideration about non-steady bed-load transport in open channels". *Proceedings of the XI IAHR Congress, Leningrad, USSR, 1965*, vol. 3, no. 3.8.
- DEWANDRE, C., LOSSEAU, N. (2004). *Evolution morphologique d'une rivière à l'aval d'un seuil déversant : Etude expérimentale*. Diploma work, Université catholique de Louvain, Louvain-la-Neuve, Belgium (in French).
- DI CRISTO, C., LEOPARDI, A., GRECO, M. (2002). "A bed-load transport model for non-uniform flows". *Proceedings of River Flow 2002, Louvain-la-Neuve, Belgium, September 2002*, 859-863.
- DUBOIS, T., JONCKHEERE, S. (2006). *Transport solide par charriage en régime uniforme, validation d'un modèle à deux couches*. Diploma work, Université catholique de Louvain, Louvain-la-Neuve, Belgium (in French).
- EINSTEIN, H.A. (1950). "The bed load function for sediment transportation in open channel flows". Tech. Bull.1026, U.S. Department of Agriculture, Soil Conservation Service, Washinton D.C.
- EL KADI ABDERREZZAK, K., PAQUIER, A. (2004). "Simulation and prediction of river morphologic changes using RubarBE". *Proceedings of River Flow 2004, Naples, Italy, June 2004*, 89-98.
- ERTO, P. (1999). *Probabilità e statistica per le scienze e l'ingegneria*. McGraw Hill Italia, Milano (in Italian).
- FRACCAROLLO, L., CAPART, H. (2002). "Riemann wave description of erosional dam-break flows". *Journal of Fluid Mechanics*, 461, 115-133.
- FRACCAROLLO, L., CAPART, H., ZECH, Y. (2003). "A Godunov method for the computation of erosional shallow water transient". *Int. Journal of Numerical Methods in Fluids*, 41, 951-976.

- GAUDIO, R., MARION, A., BOLOVIN, V. (2000). "Morphological effects of bed sills in degrading rivers". *Journal of Hydraulic Research*, 38(2), 89-96.
- GAUDIO, R., MARION, A. (2003). "Time evolution of scouring downstream of bed sills". *Journal of Hydraulic Research*, 41(3), 271-284.
- GOUTIERE, L., LARAICHI, T. (2006). *Modèle d'évolution morphologique fluvial de Saint-Venant-Exner : Analyse numérique et validation expérimentale*. Diploma work, Université catholique de Louvain, Louvain-la-Neuve, Belgium (in French).
- GOUTIÈRE, L., SOARES FRAZÃO, S., SAVARY, C., LARAICHI, T., ZECH, Y. (submitted). "One-dimensional model for transient flows involving bedload sediment transport and changes in flow regimes". Submitted to the *Journal of Hydraulic Engineering*.
- GRAF, H.W., ALTINAKAR, M.S. (1998). *Fluvial Hydraulics. Flow and transport processes in channels of simple geometry*. Chichester, Wiley, 1998.
- HAGER, W.H., OLIVETO, G., PAGLIARA, S., UNGER, J. (2004). "Recent advances in scour hydraulics". *Proceedings of River Flow 2004, Naples, Italy, June 2004*, 3-12.
- HARTEN, A. (1983). "High resolution schemes for hyperbolic conservation laws". *Journal of Computational Physics*, 49, 357-393.
- HARTEN, A., LAX, P.D., VAN LEER, B. (1983). "On upstream differencing and Godunov-type schemes for hyperbolic conservation laws". *SIAM Review*, 25, 35-61.
- HIRSCH, C. (1997). *Numerical Computation of Internal and External Flows*. Wiley, UK
- HOFFMANS, G.J.C.M., PILARCZYK, K.W. (1993). "Local scour downstream of hydraulic structures".
- HOLLY, F. M., RAHUEL, J.-L. (1990). "New Numerical/Physical Framework for mobile-bed modelling, Part 1: Numerical and physical principles". *Journal of Hydraulic Research*, 28(4), 401-416.

- IERVOLINO, M. (2005). *Transporto solido di fondo in condizioni non stazionare: modellazione monodimensionale*. PhD thesis, Università degli Studi di Napoli "Frederico II", Naples, Italy (in Italian).
- JANSEN, P.PH., VAN BENDEGOM, L., VAN DEN BERG, J., DE VRIES, M., ZANEN, A. (1979). *Principles of River Engineering. The non-tidal alluvial river*. London, UK Pitman.
- KARIM, O.A., ALI, K.H.M. (2000). "Prediction of flow patterns in local scour holes caused by turbulent water jets". *Journal of Hydraulic Research*, 38(4), 279-287
- LAWRENCE, G.A. (1990). "On the hydraulics of Boussinesq and non-Boussinesq two-layer flows". *Journal of Fluid Mechanics*, 215, 457-480.
- LEAL, J.G.A.B., FERREIRA, R.M.L., CARDOSO, A.H. (2003). "Dam-break wave propagation over a cohesionless erodible bed". *Proceedings of XXX IAHR Congress, Thessaloniki, Greece, August 2003*, Vol. C-II, 133-140.
- LE GRELLE, N., ZECH, Y. (2003). "Presentation of the benchmark on dam-break induced geomorphic changes in a valley with uniform sediments". *IMPACT project workshop Investigation of Extreme Flood Processes and Uncertainty, Louvain-la-Neuve, Belgium*.
- LEOPARDI, A. (2001). *Modelli Bidimensionali Di Corpi Idrici Naturali*. PhD thesis, Università degli Studi di Napoli "Frederico II", Naples, Italy (in Italian).
- LEVEQUE, R.J. (2002). *Finite Volume Methods for Hyperbolic Problems*. Cambridge University Press.
- LIGETT, J.A. (1994). *Fluid Mechanics*. McGraw-Hill, New-York.
- LYN, D.A. (1987). "Unsteady sediment transport modelling". *Journal of Hydraulic Engineering*, 113(1), 1-15.
- LYN, D.A., ALTINAKAR, M. (2002). "St-Venant-Exner Equations for Near-Critical and Transcritical Flows". *Journal of Hydraulic Engineering*, ASCE, 128(6), 579-587.

- MESELHE, E.A., HOLLY, F. (1997). "Invalidity of Preismann Scheme for Transcritical Flow". *Journal of Hydraulic Engineering*, 123(7), 552-554
- MEYER-PETER, E., MÜLLER, R. (1948). "Formulas for bed-load transport". 2nd IAHR Congress, Stockholm, 1948.
- PENG, S.H. (2004). *Geomorphic change induced by the flow of mud and debris surges into river channels*. PhD thesis, National Chung-Hsing University, Taiwan.
- PERNG, A.T.H. (2006). *Trenching of underwater sand beds by steadily moving jets*. PhD thesis, Graduate Institute of Civil Engineering, National Taiwan University, Taiwan.
- PHILLIPS, B.C., SUTHERLAND, A.J. (1989). "Spatial and lag effects in bed load sediment transport". *Journal of Hydraulic Research*, 27, 275-292.
- PHILLIPS, B.C., SUTHERLAND A.J. (1990). "Temporal lag effect in bed load sediment transport". *Journal of Hydraulic Research*, 28, 5-23.
- PREISSMANN, A. (1961). "Propagation des intumescences dans les canaux et rivières". 1^{er} Congrès de l'Association Française de Calcul, Grenoble, France, 433-442.
- RAHUEL, J.L. (1988). "Modélisation de l'évolution du lit des rivières alluvionnaires à granulométrie étendue" (in French). Institut National Polytechnique de Grenoble, Grenoble, France.
- ROE, P.L. (1981). "Approximate Riemann solvers, parameter vectors and difference scheme". *Journal of Computational Physics*, 43, 357-372.
- ROSATTI, G., FRACCAROLLO, L. (2006). "A well-balanced approach for flows over mobile-bed with high sediment-transport". *Journal of Computational Physics*, 220, 312-338.
- ROSSI, L. (2002). *Re-thinking the Var river training in Nice*. PhD Thesis, University of Genova, Italy.

- SAVARY, C., ZECH, Y. (2006). "Can a two-layer morphological model compete with common sediment transport formulae?". *Proceedings of River Flow 2006, Lisbon, Portugal, September 2006*, 825-832.
- SAVARY, C., BELLAL, M., ZECH, Y. (2006). "Two-layer approach for transcritical flow on mobile bed: knickpoint migration". *Proceedings of River Flow 2006, Lisbon, Portugal, September 2006*, 1155-1163.
- SAVARY, C., ZECH, Y. (2007). "Boundary conditions in a two-layer geomorphical model. Application to a hydraulic jump over a mobile bed". *Journal of Hydraulic Research* (in press).
- SIEBEN, J. (1997). *Modelling of hydraulics and morphology in mountain rivers*. PhD thesis, Delft University of Technology, Delft, The Netherlands
- SIEBEN, J. (1999). "A theoretical analysis of discontinuous flow with mobile bed". *Journal of Hydraulic Research*, 37(2).
- SLOFF, C.J. (1993). "Analysis of basic equations of sediment-laden flows". *Communications on Hydraulic and Geotechnical Engineering, Rept. No. 93-8*, Delft University of Technology, Delft, The Netherlands.
- SOARES FRAZÃO, S. (2002). *Dam-break induced flows in complex topographies. Theoretical, numerical and experimental approaches*. PhD thesis, Université catholique de Louvain, Louvain-la-Neuve, Belgium
- SPINEWINE, B., ZECH, Y. (2002). "Dam-break waves over movable beds: a flat bed test case". *IMPACT project workshop Investigation of Extreme Flood Processes and Uncertainty, Mo-i-Rana, Norway*.
- SPINEWINE, B. (2005). *Two-layer flow behaviour and the effects of granular dilatancy in dam-break induced sheet-flow*. PhD thesis, Université catholique de Louvain, Louvain-la-Neuve, Belgium
- SUMER, B.M., KOZAKIEWICZ, A., FREDSOE, J., DEIGAARD, R. (1996). "Velocity and concentration profiles in sheet-flow layer of movable bed". *Journal of Hydraulic Engineering* 122 (10): 549-558

TORO, E.F. (1997). *Riemann Solvers and Numerical Methods for Fluid Dynamics. A practical introduction*. Springer-Verlag, Berlin, Germany.

VAN LEER, B. (1977). "Toward the ultimate conservative difference scheme III. Upstream-centered finite-difference schemes for ideal compressible flows". *Journal of Computational Physics*, 23, 263-275.

VAN LEER, B. (1979). "Towards the ultimate conservative difference scheme IV. A new approach to numerical convection". *Journal of Computational Physics*, 32, 101-136.

VREUGDENHIL, C.B., DE VRIES, M. (1967). "Computation of non-steady bed-load transport by a pseudo viscosity method", *Delft Hydr. Lab. Publ.* No 45, Delft, The Netherlands.

ZECH, Y., SOARES FRAZÃO, S., SPINOWINE, B., BELLAL, M., SAVARY, C. (2005). "The morphodynamics of super- and transcritical flow". *Proceedings of RCEM 2005 International Conference on River, Coastal and Estuarine Morphodynamics*.