

Content

part I.

A1	Dragomirescu, F.I., Bistriean, D.A., Muntean, S., Susan-Resiga, R. - The stability of the swirling flows with applications to hydraulic turbines	15
A2	Pochylý, F., Čermák, L., Rudolf, P., Habán, V., Koutník, J. – Assessment of the steady swirling flow stability using amplitude-frequency characteristic	25
A3	Kuibin, P. - On influence of gas phase on vortex rope rotation	35
A4	Fay, A. - Does rotating stall occur in Francis runners causing fluctuations?	45
B1	Kirschner, O., Ruprecht, a., Göde, E. - Experimental Investigation Of Pressure Pulsation In A Simplified Draft Tube	55
B2	Muntean, S., Susan-Resiga, R.F., Bosioc, A.I. - Numerical investigation of the jet control method for swirling flow with precessing vortex rope	65
B3	Jošt, D., Lipej, A. - Numerical prediction of the vortex rope in the draft tube	75
B4	Gouin, P., Deschenes, C., Iliescu, M., Ciocan, G.D. - Experimental Investigation of Draft Tube Flow of an Axial Turbine by Laser Doppler Velocimetry	87
B5	Francke, H.H., Finstad, P.- H.E., Kjeldsen, M. - Fundamental studies of swirling flows using pitot measurements	99
B6	Tridon, S., Barre, S., Ciocan, G.D., Tomas, L. - Experimental description of swirling flow downstream a Francis turbine runner and initialization of numerical simulations	111
C1	Duprat, C., Balarac, G., Metais, O., Tridon, S., Barre, S., Ciocan, G.D., Laverne, T., Tomas, L. - Large-eddy simulation of draft tube flow and validation from experimental measurements	123
C2	Cervantes, M.J. - Counter rotating runner cone in a Kaplan elbow draft tube for increased efficiency	133
C3	Škerlavaj, A., Vehar, F., Pavlin, R., Lipej, A. – A hydraulic study of cooling water intake structure	143
C4	Muntean, S., Nilsson, H., Susan-Resiga, R.F. – 3D numerical analysis of the unsteady turbulent swirling flow in a conical diffuser using Fluent and Openfoam	155
C5	Beaulieu, S., Deschenes, C., Iliescu, M., Ciocan, G.D. - Study of the flow field through the runner of a propeller turbine using stereoscopic PIV	165
C6	Viscanti, N., Pesatori, E., Turozzi, G. - Improvement of a Francis runner design	177
D1	Sato, T., Nagahara, T., Suzuki, S., Tanaka, K., Fuchiwaki, M., Nishi, M. - Cavitation analysis on double-suction volute pump	185
D2	Kochevsky, A.N., Lugova, S.O., Ivaniushin, A.A., Yelin, A.V., Knyazeva, E.G., Tverdokhle, I.B. - Numerical simulation of fluid flow in a radial-flow double suction pump and its components: prediction of its performance and cavitation curves	195
D3	Sedlák, M., Zima, P., Müller, M. - CFD analysis of cavitation erosion potential in hydraulic machinery	205
D4	Pierrat, D., Gros, L., Couzinet, A., Pintrand, G., Ph. Gyomlai - On the leading edge cavitation in a helico-centrifugal pump : experimental and numerical investigations	215
D5	Stuparu, A., Muntean, S., Susan-Resiga, R., Anton, L. - Numerical investigation of the cavitation behavior of a storage pump operating at best efficiency point	229
D6	Ševčík, P. - Determination of cavitation level using ultrasonic emission measurement	239

F1	Zobeiri, A., Ausoni, P., Avellan, F., Farhat, M. - Vortex shedding from blunt and oblique trailing edge hydrofoils	245
F2	Roth, S., Calmon, M., Farhat, M., Muench, C., Huebner, B., Avellan, F. - Hydrodynamic damping identification from an impulse response of a vibrating blade	253
F3	Yan, J., Koutník, J., Seidel, U., Hübner, B., Scherer, T. - Compressible simulation of rotor-stator interaction in a pump-turbine	261
F4	Salajka, V., Kanický, V., Kala, J. - Dynamic analysis of the Francis turbine runner for hydroelectric power plant Burrendong	271
F6	Chabane, S., Plumejault, S., Pierrat, D., Couzinet, A., Bayart, M. - Vibration and chattering of conventional safety relief valve under built up back pressure	281

part II.

F1	Song, Z., Chen, J., Ma, Z. - Study on coupling between the lateral bending and axial dynamic behavior of a water turbine generator set	295
F2	Půlpitel, L., Veselý, J., Mikulášek, J. - Comments to vibrations and pressure oscillations induced by the rotor stator interaction in a hydraulic turbine	305
F3	Doerfler, P.K. - Evaluating 1D models for vortex-induced pulsation in Francis turbines	315
F4	Alligné, S., Nicolet, Ch., Ruchonnet, N., Hasmatuchi, V., Maruzewski, P., Avellan, F. - Numerical simulation of nonlinear selfoscillations of a full load vortex rope	325
F5	Hasmatuchi, V., Farhat, M., Maruzewski, P., Avellan, F. - Experimental investigation of a pump-turbine at off-design operating conditions	339
F6	Kobro, E., Gamboa, A., Bloch, R., Nielsen, T. - Onboard pressure measurement in high head Francis prototype runners	349
G1	Andrade, J.G.P., Barbosa, P.S.F., Ribeiro, L.C.J. - Model to analyze the behavior of a hydroelectric power plant	363
G2	Nicolet, C., Alligné, S., Kawkabani, B., Koutník, J., Simond, J.-J., Avellan, F. - Stability study of Francis pump-turbine at runaway	371
G3	Svingen, B., Luraas, H., Rhrich, A.-J. - Pressure feedback and water column compensation in hydroelectric plants	385
G4	Martin, C.S. - Condensation-induced water hammer in a horizontal pipe	397
G5	Bergant, A., Kim, Y., Tijsseling, A.S., Lambert, M.F., Simpson, A.R. - Analysis of beat phenomena during transients in pipelines with a trapped air pocket	409
G6	Adamkowski, A., Lewandowski, M. - Improved numerical modelling of hydraulic transients in pipelines with column separation	419
H1	Kala, J., Salajka, V., Kanický, V., Čada, Z. - Dynamic analysis of the penstock of the pumped-storage power plant	433
H2	Karadžić, U., Bergant, A., Vukoslavčević, P. - Water hammer effects during Pelton turbine load rejection	443
H3	Ivljanin, B., Gajic, A. - Characteristics of the Kaplan turbine and its influence on the normal transient regimes	453
H4	Laanearu, J., Bergant, A., Annus, I., Koppel, T., van't Westende, J.M.C. - Some aspects of fluid elasticity related to filling and emptying of large-scale pipeline	465
H5	Keramat, A., Ahmadi, A., Majd, A. - Transient cavitating pipe flow due to a pump failure	475

H6	Storli, P.-T., Nielsen, T.K. - Improving the performance of instantaneous acceleration based models using curved coefficients	487
P1	Ruchonnet, N., Nicolet, C., Alligné, S., Avellan, F.- Experimental Investigation of Cavitation Influence on Hydroacoustic Resonance in Pipe	501
P2	Alexenko, V., Nenja, V, Baranova, I.- Complex modelling hydraulic circuit with turbine drive of centrifugal pump	515
P3	Petit, O., Page, M., Beaudoin, M., Nilsson, H. - The ERCOFTAC centrifugal pump OpenFOAM case-study	523
P4	Němec, Z., Matoušek, R. - Oscillations in water turbine feeding pipeline caused by regulation	533
P5	Ramdal, J., Jonsson, P.P., Nielsen, T.K., Cervantes, M.J. - Finding inertia time constants for bends related to a modified Gibson's method	541
P6	Bosioc, A., Tanasa, C., Muntean, S., Susan-Resiga, R.F. - 2D LDV measurements and comparison with axisymmetric flow analysis of swirling flow in a simplified draft tube	551
P7	Himr, D., Habán, V., Pochylý, F. - Sound speed in the fluid – gas mixture	561
P8	Münch, C., Vonlanthen, M., Gomes, J., Guinard, P., Avellan, F. - Design and Performance Assessment of a Tidal Ducted Turbine	571
P9	Kozubková, M., Rautová, J. - Cavitation Modelling of the Flow in Laval Nozzle	583
P10	Vardy, A., Bergant, A., He, S., Ariyaratne, C., Koppel, T., Annus, I., Tijsseling, A., Hou, Q. - Usteady skin friction experimentation in a large diameter pipe	593
P11	Large-Eddy Simulation of Draft Tube Flow and Validation from Experimental Measurements Duprat, C., Balarac, G., Metais, O., Tridon, S., Barre, S., Ciocan, G.D., Laverne, T., Tomas, L.	603
P13	Dudlik, A., Koutnik, J. - Water hammer 2 phase analysis Hydraulic system with a Kaplan turbine	613
P14	Pochylý, F., Rudolf, P., Habán, V., Čermák, L. – A note on influence of velocity field on stability of the flow in axisymmetric domain with focus on origin of the cavitating vortex rope	625