

A review of methods for leakage management in pipe networks

Puust, Raido; Kapelan, Zoran; Savic, D. A.; **Koppel, Tiit** Urban water journal 2010 / 1, p. 25-45 : ill

https://www.researchgate.net/publication/235694708_A_review_of_methods_for_leakage_management_in_pipe_networks

An inverse approach for leakage identification in water distribution systems

Koppel, Tiit; Puust, Raido; Ainola, Leo XXIII Nordic Hydrological Conference ["Fresh Water Resources Management"] : Tallinn, Estonia, 8-12 August 2004 : selected articles. Vol. I 2004 / p. 342-349 : ill https://artiklid.elnet.ee/record=b2343456*est

An investigation of shear stresses on the wall of the pipe at the starting from rest of liquid by means of the thermo-anemometer

Liiv, Uno; Koppel, Tiit Proceedings of the Dynamic Flow Conference 1978 on Dynamic Measurements in Unsteady Flows : I.M.S.T., Marseille, France, September 11 - 14, 1978 1979 / p. ?

An investigation of turbulence generation and wall shear stress spectral analysis during unsteady flow in tubes

Ainola, Leo; Koppel, Tiit; Liiv, Uno XVIII IAH Congress : Cagliari, Italia, 10 - 14 Sept. 1979 : 3, Proceedings, Subject B : Mass and heat exchange in hydraulic phenomena 1979 / p. 165-172

Analysis of the water flow in the water distribution system from point view of hydraulic energy

Koppel, Tiit; Vassiljev, Anatoli Proceedings of the International Conference "Hydraulics (Science and Discipline)" 2004 / p. 46-47

Application of IR thermography for unsteady fluid-flow research

Koppel, Tiit; Lähdeniemi, Matti; Ekholm, Ari Thermosense XX, 14-16 April 1998, Orlando, Florida : [proceedings] 1998 / p. 40-48: ill

Background leakage assessment for BBLAWN

Vassiljev, Anatoli; Koppel, Tiit; Puust, Raido Procedia engineering 2014 / p. 111-117 : ill

<https://doi.org/10.1016/j.proeng.2014.11.166> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Battle of the water calibration networks

Ostfeld, Avi; **Koppel, Tiit; Vassiljev, Anatoli** Journal of water resources planning and management 2012 / p. 523-532 : ill

<https://ascelibrary.org/doi/10.1061/%28ASCE%29WR.1943-5452.0000191>

Boundary layer with heat load in transitional accelerating pipe flow

Ainola, Leo; Ekholm, Ari; Koppel, Tiit; Lähdeniemi, Matti; Puust, Raido Hydrodynamics V. Volume 1, Theory and applications : proceedings of the fifth International Conference on Hydrodynamics : Tainan, Oct. 31 - Nov. 2, 2002 2002 / p. 523-528 : ill

Calibration of a model of an operational water distribution system containing pipes of different age

Koppel, Tiit; Vassiljev, Anatoli Advances in engineering software 2009 / 8, p. 659-664 : ill

Calibration of the model of an operational water distribution system

Vassiljev, Anatoli; Koppel, Tiit; Puust, Raido CCWI 2005 : proceedings of the Eighth International Conference on Computing and Control for the Water Industry : Exeter, UK. Volume 1 2005 / p. 155-159 : ill

Calibration of the model of an operational water distribution system

Vassiljev, Anatoli; Koppel, Tiit Proceedings of the Fifth International Conference on Engineering Computational Technology 2006 / Paper 155 [10] p. : ill

Calibration of the model of an operational water distribution system

Koppel, Tiit; Vassiljev, Anatoli World Water Congress : Vienna, Austria, 7-12 September 2008 2008 / [8] p

<https://www.sciencedirect.com/science/article/pii/S0965997808001981>

Calibration of the water distribution network model

Koppel, Tiit; Kändler, Nils; Vassiljev, Anatoli Proc. of the Conference "Water Resources Management 2001" 2001 / p. 207-217

Calibration of water distribution network for BWCN

Koppel, Tiit; Vassiljev, Anatoli Water Distribution System Analysis 2010 : WDSA2010 : Tucson, AZ, USA, Sept. 12-15, 2010 2010 / [10] p.: ill

Capacity reliability of water distribution systems

Vaabel, Joonas; Koppel, Tiit; Ainola, Leo; Sarv, Laur Journal of Hydroinformatics 2014 / p. 731-741

<https://doi.org/10.2166/hydro.2013.040> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Complex approach to the water network model calibration and the leakage distribution

Ainola, Leo; Koppel, Tiit; Vassiljev, Anatoli Hydraulic Engineering Software VIII : [Eighth International Conference on Hydraulic Engineering Software : HYDROSOFT 2000] 2000 / p. 91-100 : ill <https://www.witpress.com/Secure/elibrary/papers/HY00/HY00008FU.pdf>

Construction of water network model

Kändler, Nils; Koppel, Tiit; Vassiljev, Anatoli 4th International Congress and Trade Fair "Water : Ecology and Technology" : ECWATECH-2000 : Moscow, 30 May - 2 June 2000 : abstracts 2000 / p. 246-247

Correction of demand patterns on the basis of pressure measurements

Koppel, Tiit; Vassiljev, Anatoli Proceedings of the Thirteenth International Conference on Civil, Structural and Environmental Engineering Computing : Chania, Crete, Greece, 6–9 September 2011 / [9] p
https://www.researchgate.net/publication/269133085_Correction_of_Demand_Patterns_on_the_Basis_of_Pressure_Measurements

Database driven hydraulic model creation procedure

Koor, Margus; Puust, Raido; Vassiljev, Anatoli; Koppel, Tiit WDSA 2012 : 14th Water Distribution Systems Analysis Conference : 24-27 September 2012 in Adelaide, South Australia 2012 / p. 407-414
https://www.researchgate.net/publication/289399341_Database_driven_hydraulic_model_creation_procedure

Determination of water distribution network resistance coefficient and hydraulic capacity

Vaabel, Joonas; Koppel, Tiit; Sarv, Laur; Annus, Ivar Procedia engineering 2014 / p. 679-684 : ill
https://doi.org/10.1016/j.proeng.2014.11.494_Conference_proceedings_at_Scopus_Article_at_Scopus_Article_at_WOS

Development of accelerating pipe flow starting from rest

Annus, Ivar; Koppel, Tiit; Sarv, Laur; Ainola, Leo Journal of fluids engineering 2013 / p. 111204-1 - 111204-10 : ill
https://doi.org/10.1115/1.4025256_Journal_metrics_at_Scopus_Article_at_Scopus_Journal_metrics_at_WOS_Article_at_WOS

Development of accelerating pipe flow starting from rest = Paigalseisust algava kiireneva voolamise areng torus

Annus, Ivar; Koppel, Tiit 2011 http://www.ester.ee/record=b2723494*est

Development of radial velocity component in accelerating start-up pipe flow

Annus, Ivar; Koppel, Tiit European journal of mechanics B. Fluids 2015 / p. 48-54 : ill https://doi.org/10.1016/j.euromechflu.2015.04.001_Journal_metrics_at_Scopus_Article_at_Scopus_Journal_metrics_at_WOS_Article_at_WOS

Diurnal dynamic analysis of water distribution networks

Ainola, Leo; Koppel, Tiit; Kändler, Nils Advances in Water Supply Management : proceedings of the International Conference on Computing and Control for the Water Industry, 15-17 September 2003, London, UK 2003 / p. 165-171 : ill
<https://www.taylorfrancis.com/chapters/edit/10.1201/NOE9058096081-19/diurnal-dynamic-analysis-water-distribution-networks-ainola-koppel-k%C3%A4ndler>

Diurnal dynamics effect on freezing of urban water system

Koppel, Tiit; Ainola, Leo 1st UNESCO IHP VI Workshop : Integrated Urban Water Management in Cold Climate : NTNU, Trondheim, Norway, November 3-4, 2005 : book of abstracts 2005 / p. 79-80

Education of civil engineering in Tallinn Technical University [Electronic resource]

Koppel, Tiit; Õiger, Karl; Laur, Toomas Proceedings of the I International Meeting in Civil Engineering Education, Spain, Ciudad Real, 2003 2003 / [10] p. [CD-ROM]

Educational problems of civil engineering at Tallinn University of Technology

Õiger, Karl; Koppel, Tiit; Laur, Toomas ITHET 2004 : proceedings of the Fifth International Conference on Information Technology based Higher Education and Training : 31 May - 2 June, 2004, Istanbul, Turkey 2004 / p. 434-436

Effects of bottom-height changes on maximal exchange-flow estimates in channels with quadratic shape cross sections

Laanearu, Janek; Davies, Peter A.; Koppel, Tiit Proceedings of 32nd Congress of IAHR : Venice, Italy, July 1-6, 2007 2007 / ? p
<https://www.iahr.org/library/infor?pid=15300>

Ehitiste tuleohutus

Randmaa, Toomas; Suurkask, Valdu; Koppel, Tiit 2005 https://www.ester.ee/record=b2043887*est

Emptying of large-scale pipeline by pressurized air

Laanearu, Janek; Annus, Ivar; Koppel, Tiit; Bergant, Anton; Vučkovic, Sašo; Hou, Qingzhi; Tijsseling, Arris S.; Anderson, Alexander; Westende, Jos M.C.van't Journal of hydraulic engineering 2012 / p. 1090-1100 : ill
https://www.win.tue.nl/~atijssel/pdf_files/Laanearu-et-al_2012.pdf

Energetic optimization by rehabilitation of oversized water distribution networks

Ainola, Leo; Koppel, Tiit; Kändler, Nils Pumps, electromechanical devices and systems applied to urban water management. Volume 1 2003 / p. 3-9

Energy-based analysis for rehabilitation of water distribution networks

Ainola, Leo; Koppel, Tiit; Vassiljev, Anatoli Proceedings of the EWA/AGHTM Conference "Operation and Maintenance of Sewer and Water Pipes", Paris, 2003 2003 / p. 163-175

Estimation of real-time demands on the basis of pressure measurements

Vassiljev, Anatoli; Koppel, Tiit Proceedings of the Eight International Conference on Engineering Computational Technology 2012 / Paper 54, [9] p.: ill <https://www.sciencedirect.com/science/article/pii/S0965997814001720>

Estimation of real-time demands on the basis of pressure measurements by different optimization methods

Vassiljev, Anatoli; Koppel, Tiit Advances in engineering software 2015 / p. 67-71 : ill <https://doi.org/10.1016/j.advengsoft.2014.09.023>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Estimation of real-time water fluxes in water distribution system on the basis of pressure measurements

Koppel, Tiit; Vassiljev, Anatoli Advances in engineering software 2013 / p. 19-23 : ill <https://doi.org/10.1016/j.advengsoft.2012.11.012>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Experience in modeling of water supply systems

Koppel, Tiit; Vassiljev, Anatoli Congress publications of ECWATECH-2004 : 1-4 June 2004, Moscow. 2 2004 / p. 912

Experience of calibration of model of water supply system

Ainola, Leo; Koppel, Tiit; Kändler, Nils; Vassiljev, Anatoli 5th International Congress ECWATECH-2002, Moscow : abstracts 2002 / p. 214-215

Experimental data processing system for unsteady flow studies

Ainola, Leo; Koppel, Tiit; Lamp, Jürgen; Liiv, Uno XIX IAHR Congress, New Delhi, India, 2-7 February 1981 : proceedings = XIX Congrès de l'AIHR, New Delhi, Inde, 2-7 février 1981 ; Vol. 5: Subject D 1981 / p. 535-544

Experimental investigation on rapid filling of a large-scale pipeline

Hou, Qingzhi; Tijsseling, Arris S.; **Laanearu, Janek; Annus, Ivar; Koppel, Tiit** Journal of hydraulic engineering 2014 / art. 04014053, p. 1-14 : ill [https://doi.org/10.1061/\(ASCE\)HY.1943-7900.0000914](https://doi.org/10.1061/(ASCE)HY.1943-7900.0000914) [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Experimental investigation on rapid filling of a large-scale pipeline

Hou, Qingzhi; Tijsseling, Arris S.; **Laanearu, Janek; Annus, Ivar; Koppel, Tiit** 2013

Experimental study of filling and emptying of a large-scale pipeline

Hou, Qingzhi; Tijsseling, Arris S.; **Laanearu, Janek; Annus, Ivar; Koppel, Tiit**; Bergant, Anton; Vučkovič, S.; Gale, Janez; Anderson, A.; Westende, Jos M.C.van't; Pandula, Zoltan; Ruprecht, A. 2012
https://www.researchgate.net/publication/254810149_Experimental_study_of_filling_and_emptying_of_a_large-scale_pipeline

Experiments on unsteady separating flow in an open channel

Koppel, Tiit 1981

Generation of zonal transport by weakly nonlinear Rossby waves

Soomere, Tarmo; **Koppel, Tiit** XXVIII IAHR Congress : 22-27 August, Graz : proceedings [CD-ROM] 1999 / [7] p

Heat transfer by a pulsating flow in thermally developing region of a pipe

Ainola, Leo; Ekholm, Ari; Koppel, Tiit; Lähdeniemi, Matti Progress in engineering heat transfer 1999 / p. 249-256

Heat transfer in the thermally developing region for pulsating tube flow

Ainola, Leo; Koppel, Tiit; Lähdeniemi, Matti Proceedings of the Estonian Academy of Sciences. Engineering 1999 / 1, p. 41-52: ill

Heat transfer investigation in pipe by IR-thermography

Koppel, Tiit; Ainola, Leo; Ekholm, Ari; Lähdeniemi, Matti Thermosense XXII : 25-27 April 2000, Orlando, Florida : proceedings 2000 / p. 267-275 : ill

Heat transfer investigation of pulsating and accelerated pipe flow by IR-thermography

Lähdeniemi, Matti; **Ainola, Leo; Koppel, Tiit; Ekholm, Ari** Hydrodynamics IV : Theory and Applications : proceedings of the Fourth International Conference on Hydrodynamics : Yokohama, 7-9 September 2000. Vol. II 2000 / p. 913-918 : ill

Hüdraulika ja pumbad

Maastik, Aleksander; Haldre, Heiti; **Koppel, Tiit; Paal, Leopold** 1995 https://www.ester.ee/record=b1068996*est

Hüdraulika ülesannete kogu

1993 http://www.ester.ee/record=b1064669*est

Hydraulic power analysis for determination of characteristics of a water distribution system [Electronic resource]

Vaabel, Joonas; Ainola, Leo; Koppel, Tiit 8th Annual Water Distribution Systems Analysis Symposium : proceedings of WDSA 2006 : [Cincinnati, Ohio, USA], August 27-30, 2006 2006 / [9] p. : ill. [CD-ROM]

Hydraulic power analysis of flows in water distribution network

Koppel, Tiit; Ainola, Leo; Vassiljev, Anatoli CCWI 2005 : proceedings of the Eighth International Conference on Computing and Control for the Water Industry : Exeter, UK. Volume 1 2005 / p. 317-322

Hydraulic power capacity of water supply systems = Veevõrkude hüdrauline võimsus

Vaabel, Joonas 2013 https://www.ester.ee/record=b2970192*est

Identification of transition to turbulence in a highly accelerated start-up pipe flow

Koppel, Tiit; Ainola, Leo Transactions of the ASME. Journal of fluids engineering 2006 / July, p. 680-686 : ill
<https://asmedigitalcollection.asme.org/fluidsengineering/article/128/4/680/466677/Identification-of-Transition-to-Turbulence-in-a>

IR technology and image processing applied to flow investigation

Lähdeniemi, Matti; Ekholm, Ari; **Koppel, Tiit; Ainola, Leo** Machine vision news 2002 / p. 12

Joint influence of river stream, water level and wind waves on the height of sand bar in a river mouth

Laanearu, Janek; Koppel, Tiit; Soomere, Tarmo; Davies, Peter A. Nordic hydrology 2007 / 3, p. 287-302
<https://iwaponline.com/hr/article/38/3/287/688/Joint-influence-of-river-stream-water-level-and>

Linear Rossby waves and zonal transport in rotating platform

Soomere, Tarmo; **Koppel, Tiit** Proceedings of the Estonian Academy of Sciences. Engineering 1999 / 1, p. 22-40: ill
https://artiklid.elnet.ee/record=b1000412*est

A mathematical model for the determination of leakage in mains and water distribution networks

Koppel, Tiit; Ainola, Leo; Puust, Raido Proceedings of the Estonian Academy of Sciences. Engineering 2007 / 1, p. 3-16 : ill

Mittestatsionaarse voolamise uuringud hüdromehaanika laboratooriumis

Koppel, Tiit Tallinna Tehnikaülikooli aastaraamat 2008 2009 / lk. 111-114

Model of management of the water supply system

Koppel, Tiit; Seemendi, Sirje; **Vassiljev, Anatoli** XXII Nordic Hydrological Conference : Roros, Norway 4-7 August 2002. Vol. II 2002 / p. 729-737 : ill

Modelling of stormwater discharge and quality in urban area

Koppel, Tiit; Vassiljev, Anatoli; Puust, Raido; Laanearu, Janek International journal of ecological science and environmental engineering 2014 / p. 80-90 : ill

On determination of flow routes in a stormwater network using the least squares method

Laanearu, Janek; Annus, Ivar; Vassiljev, Anatoli; Koppel, Tiit Integrating Water Systems : proceedings of the Tenth International Conference on Computing and Control in the Water Industry 2009 : CCWI2009 : Sheffield, UK, 1-3 September 2009 2009 / p. 731-734

On energy efficiency of water distribution system

Vaabel, Joonas; Koppel, Tiit; Ainola, Leo Water Management Challenges in Global Change : proceedings of the 9th Computing and Control for the Water Industry (CCWI2007) and Sustainable Urban Water Management (SUWM2007) Conferences : Leicester, UK, 3-5 September, 2007 2007 / p. 169-172

On hydraulic power capacity of water supply system

Koppel, Tiit; Ainola, Leo; Vaabel, Joonas Integrating Water Systems : proceedings of the Tenth International Conference on Computing and Control in the Water Industry 2009 : CCWI2009 : Sheffield, UK, 1-3 September 2009 2009 / p. 551-555

On long-wave dependent flow transitions in partially filled large-scale pipeline [Electronic resource]

Laanearu, Janek; Annus, Ivar; Koppel, Tiit Water Engineering for a Sustainable Environment : 33rd IAHR Congress, Vancouver, British Columbia, Canada, 9-14 August, 2009 2009 / p. 6553-6560 <https://www.iahr.org/library/infor?pid=24429>

On the alternative equations of water hammer

Koppel, Tiit; Ainola, Leo Proceedings of 32nd Congress of IAHR : Venice, Italy, July 1-6, 2007 2007 / [9] p

Optimal pump count prediction algorithm for identical pumps working in parallel mode

Koor, Margus; Vassiljev, Anatoli; Koppel, Tiit Procedia engineering 2014 / p. 951-958 : ill
<https://doi.org/10.1016/j.proeng.2014.02.106> Conference proceedings at Scopus Article at Scopus Article at WOS

Optimization of pump efficiencies with different pumps characteristics working in parallel mode

Koor, Margus; Vassiljev, Anatoli; Koppel, Tiit Advances in engineering software 2016 / p. 69-76 : ill
<https://doi.org/10.1016/j.advengsoft.2015.10.010> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

Optimization of pump efficiency in a water distribution system

Koor, Margus; Vassiljev, Anatoli; Koppel, Tiit Proceedings of the Ninth International Conference on Engineering Computational Technology 2014 / Paper 91, p. 1-10 : ill <https://iwaponline.com/ws/article/23/3/1094/93912/Optimization-of-the-operation-of-water>
[Conference proceedings at Scopus](#) [Article at Scopus](#)

Parametric modelling study for filling of horizontal pipe containing water

Laanearu, Janek; Annus, Ivar; Sergejeva, Monika; Koppel, Tiit; Puust, Raido WDSA 2012 : 14th Water Distribution Systems Analysis Conference : 24-27 September 2012 in Adelaide, South Australia 2012 / p. 678-693
https://www.researchgate.net/publication/286954531_Parametric_modelling_study_for_filling_of_horizontal_pipe_containing_water

Principle of locality and its application to water network model calibration

Ainola, Leo; Koppel, Tiit; Kändler, Nils; Vassiljev, Anatoli Water software systems : theory and applications. Vol. 1 2001 / p. 111-120

Probabilistic leak detection in pipe networks using the SCEM-UA algorithm = Lekete tõenäosuse määramine torustikes algoritmi SCEM-UA abil

Puust, Raido 2007

Probabilistic leak detection in pipe networks using the SCEM-UA algorithm [Electronic resource]

Puust, Raido; Kapelan, Zoran; Savic, Dragan; **Koppel, Tiit** 8th Annual Water Distribution Systems Analysis Symposium : proceedings of WDSA 2006 : [Cincinnati, Ohio, USA], August 27-30, 2006 2006 / [12] p. : ill. [CD-ROM]
https://www.researchgate.net/publication/221936231_Probabilistic_Leak_Detection_in_Pipe_Networks_Using_the_SCEM-UA_Algorithm

Pumps energy consumption based on new EU legislation

Annus, Ivar; Uibo, D.; Koppel, Tiit Procedia engineering 2014 / p. 517-524 : ill <https://doi.org/10.1016/j.proeng.2014.11.473>
[Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Real-time demands and calibration of water distribution systems

Vassiljev, Anatoli; Koor, Margus; Koppel, Tiit Advances in engineering software 2015 / p. 108-113 : ill
<https://doi.org/10.1016/j.advengsoft.2015.06.012> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Rehabilitation aspects of oversized water distribution networks

Ainola, Leo; Koppel, Tiit; Kändler, Nils Hydraulic information management 2002 / p. 351-360

Semi-empirical method for estimation of energy losses in a large-scale pipeline

Laanearu, Janek; Annus, Ivar; Sergejeva, Monika; Koppel, Tiit Procedia engineering 2014 / p. 969-977 : ill
<https://doi.org/10.1016/j.proeng.2014.02.108> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Sensitivity of calibration results to uncertainties in input data: case of operational water distribution system

Vassiljev, Anatoli; Koppel, Tiit; Saare, Arvo Urban Water Management: Challenges and Opportunities : proceedings of the 11th International Conference on Computing and Control for the Water Industry (CCWI 2011), University of Exeter, 5-7 September 2011 / p. 713-718 : ill
https://www.researchgate.net/publication/290656813_Sensitivity_of_calibration_results_to_uncertainties_in_input_data_Case_of_operational_water_distribution_system

Some aspects of fluid elasticity related to filling and emptying of large-scale pipeline

Laanearu, Janek; Bergant, Anton; Annus, Ivar; Koppel, Tiit; Westende, Jos M.C.van't Proceedings of the 3rd IAHR International Meeting of the Workgroup on Cavitation and Dynamic Problems in Hydraulic Machinery and Systems : Brno, Czech Republic, October 14-16, 2009. Part II 2009 / p. 465-474 : ill

Soojusülekandest kriitilistel režiimidel

Tihomirova, T.; Saarniit, T.; Liiv, Uno; Koppel, Tiit XXIX vabariiklik üliõpilaste teaduslik- tehniline konverents 30. märtsist - 1. aprillini 1977 : ettekannete teesid 1977 / lk. 112 https://www.ester.ee/record=b2449987*est

Student mobility and economic situation in the constructive sector

Koppel, Tiit; Liias, Roode Inquiries into European Higher Education in Civil Engineering, Ninth EUCEET Volume 2010 / p. 217-225

A study on relationships between forcing factors and morphological parameters of outlet areas of some rivers flowing into the Estonian coastal sea

Koppel, Tiit; Laanearu, Janek River basin management III : Third International Conference on River Basin Management 2005 / p. 225-235 : ill <https://www.witpress.com/eliibrary/wit-transactions-on-ecology-and-the-environment/83/15405>

Survetorude hüdrodünaamika probleeme

Koppel, Tiit; Ainola, Leo; Vassiljev, Anatoli Teadusmõte Eestis. 4, Tehnikateadused. 2 2007 / lk. 33-40 : ill

Zonal transport created by Rossby waves

Koppel, Tiit; Soomere, Tarmo Annales geophysicae 1997 / Part 2, Supplement 2, p. C564

Tallinn Technical University. Faculty of Civil Engineering 2002, 2003

2002 https://www.ester.ee/record=b5650458*est

Tallinn Technical University. Faculty of Civil Engineering 2003

2003 http://www.ester.ee/record=b1810470*est

Tallinna Tehnikaülikool. Ehitusteaduskond 2003

2003 http://www.ester.ee/record=b1810459*est

The civil engineering education in Estonia

Koppel, Tiit; Laur, Toomas Civil engineering education in Europe - 2004 : fourth EUCEET volume 2004 / p. 38-42

The skin friction coefficient during accelerated flows in pipes

Ainola, Leo; Koppel, Tiit; Lamp, Jürgen; Liiv, Uno XX Congress of the International Association for Hydraulic Research, Moscow USSR September 5-9, 1983. Vol. 6, Proceedings, subject A, B, C, D, supplement 1983 / p. 453-460

https://www.ester.ee/record=b1984825*est

The use of error dynamics for calibration of water distribution systems

Koppel, Tiit; Vassiljev, Anatoli Proceedings of the Twelfth International Conference on Civil, Structural and Environmental Engineering Computing : 1-4 September 2009, Madeira 2009 / p. Paper 247 [14 p.]

<https://www.sciencedirect.com/science/article/pii/S0965997811002638>

Toimetust sai kirja Sadamate Liidult : [Eesti Sadamate Liidu tegevdirektori Viktor Palmeti kiri sadamaehituse inseneride koolitamise asjus, kommenteerivad TTÜ õppeprorektor Jakob Kübarsepp ja prof. Tiit Koppel]

Palmet, Viktor; **Kübarsepp, Jakob; Koppel, Tiit** Mente et Manu 2009 / 6. märts, lk. 5 https://www.ester.ee/record=b1242496*est

Tootmispraktika juhend-päevik : [ehitusteaduskonna erialade "Veevarustus ja kanalisatsioon" (1209) ning "Sooja-, gaasivarustus ja ventilatsioon" (1208) III ja IV kursuse üliõpilastele]

1986 https://www.ester.ee/record=b2618376*est

Transient flow during filling of horizontal pipe containing water

Laanearu, Janek; Annus, Ivar; Raidmaa, Meelis; Koppel, Tiit Urban Water Management: Challenges and Opportunities : proceedings of the 11th International Conference on Computing and Control for the Water Industry (CCWI 2011), University of Exeter, 5-7 September 2011 2011 / p. 913-918 : ill

Transition to sustainable water management

Pähn, Ene; Kroon, K.; Koppel, Tiit 5th IWA Conference Tampere, Finland 2007 : Past and Futures of Water : University of Tampere 13-17 June 2007 2007 / p. 167

Transition to turbulence in accelerating flow

Annus, Ivar; Koppel, Tiit; Vardy, Alan Proceedings of the HYDRALAB III Joint Transnational Access User Meeting : Hannover, February 2010 2010 / p. 9-12 : ill <https://asmedigitalcollection.asme.org/fluidsengineering/article/133/7/071202/456268/Transition-to-Turbulence-in-Accelerating-Pipe-Flow>

Transition to turbulence in accelerating pipe flow

Annus, Ivar; Koppel, Tiit Journal of fluids engineering 2011 / [7] p. : ill

Turbulent structure development in transient pipe flow

Ainola, Leo; Daniel, Eghert; Kask, Endel; Koppel, Tiit; Liiv, Uno Preprinted proceedings : 21st Congress, International Association for Hydraulic Research, Melbourne, 19-23 August 1985 = Compte-rendus 21e Congrès, Association internationale de recherches hydrauliques, Melbourne, 19 au 23 août 1985. Vol. 6 1985 / p. 6

Unsteady flow investigation by infrared and thermoanemometer techniques

Lähdeniemi, Matti; Ekholm, Ari; **Koppel, Tiit; Liiv, Uno** The Fourth Scandinavian International Conference on Fluid Power : proceedings of the conference, Tampere, Finland, September 26-29, 1995. Vol. 1 1995 / p. 432-441 : ill

Unsteady skin friction experimentation in a large diameter pipe

Vardy, Alan; Bergant, Anton; He, Shuisheng; Ariyaratne, Chanchala; Koppel, Tiit; Annus, Ivar; Tijsseling, Arris S.; Hou, Qingzhi Proceedings of the 3rd IAHR International Meeting of the Workgroup on Cavitation and Dynamic Problems in Hydraulic Machinery and Systems : Brno, Czech Republic, October 14-16, 2009. Part II 2009 / p. 593-602 : ill

https://www.researchgate.net/publication/228984476_Unsteady_skin_friction_experimentation_in_a_large_diameter_pipe

Use of error analysis for calibration of water distribution systems

Vassiljev, Anatoli; Koppel, Tiit; Puust, Raido Water Distribution System Analysis 2010 : WDSA2010 : Tucson, AZ, USA, Sept. 12-

Use of modelling error dynamics for the calibration of water distribution systems

Koppel, Tiit; Vassiljev, Anatoli Advances in engineering software 2012 / p. 188-196 : ill
<https://www.sciencedirect.com/science/article/pii/S0965997811002638>

Use of pressure dynamics for calibration of water distribution system and leakage detection

Koppel, Tiit; Vassiljev, Anatoli; Lukjanov, D.; Annus, Ivar Proceedings of WDSA 2008 : Water Distribution Systems Analysis : 17-20 August 2008, South Africa 2008 / p. 704-715 <https://ascelibrary.org/doi/10.1061/41024%28340%2959>

Use of relative roughness and changed diameters for old pipes when calibrating an operational water distribution system

Vassiljev, Anatoli; Martaud, M.; Koppel, Tiit Integrating Water Systems : proceedings of the Tenth International Conference on Computing and Control in the Water Industry 2009 : CCWI2009 : Sheffield, UK, 1-3 September 2009 2009 / p. 283-286

Use of the real-time demands for calibration of water distribution systems

Vassiljev, Anatoli; Koppel, Tiit Proceedings of the Fourteenth International Conference on Civil, Structural and Environmental Engineering Computing 2013 / p. 1-9 : ill [Paper 233] <https://www.ctresources.info/ccp/paper.html?id=7566> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Using transient flow equations for modelling of filling and emptying of the large-scale pipeline

Koppel, Tiit; Laanearu, Janek; Annus, Ivar; Raidmaa, Meelis Water Distribution System Analysis 2010 : WDSA2010 : Tucson, AZ, USA, Sept. 12-15, 2010 2010 / [9] p.: ill <https://ascelibrary.org/doi/10.1061/41203%28425%2912>

Uurimus rannajoonel toimuvatest protsessidest : [Toomas Liivi litsensiaadi väitekirjast, kaitstud Stockholmi Kuninglikus Tehnoloogiainstituudis]

Koppel, Tiit Tehnikaülikool 1999 / lk. 6 : portr. https://www.ester.ee/record=b5309277*est

Water distribution system modelling and pumping optimization based on real network of Tallinn = Tallinna linna ühisveevärgi modelleerimine ja pumpamise optimeerimine

Koor, Margus 2015 https://www.ester.ee/record=b4478906*est

Water hammer and column separation due to accidental simultaneous closure of control valves in a large scale two-phase flow experimental test rig

Bergant, Anton; Westende, Jos M.C.van't; Koppel, Tiit; Gale, Janez; Hou, Qingzhi; Pandula, Zoltan; Tijsseling, Arris S. Proceedings of the ASME 2010 Pressure Vessels & Piping Division/K-PVP Conference : PVP2010 : July 18-22, 2010, Bellevue, Washington, USA 2010 / [10] p.: ill
https://www.researchgate.net/publication/280624441_Water_hammer_and_column_separation_due_to_accidental_simultaneous_closure_of_control_valves_in_a_large-scale_two-phase_flow_experimental_test_rig

Water hammer and column separation due to accidental simultaneous closure of control valves in a large scale two-phase flow experimental test rig

Bergant, Anton; Westende, Jos M.C.van't; Koppel, Tiit; Gale, Janez; Hou, Qingzhi; Pandula, Zoltan; Tijsseling, Arris S. 2010
https://www.researchgate.net/publication/280624441_Water_hammer_and_column_separation_due_to_accidental_simultaneous_closure_of_control_valves_in_a_large-scale_two-phase_flow_experimental_test_rig

Water network model as a tool for making rehabilitation decisions

Ainola, Leo; Koppel, Tiit; Kändler, Nils XXII Nordic Hydrological Conference : Roros, Norway 4-7 August 2002. Vol. II 2002 / p. 749-756 : ill

Water network model calibration based on grouping pipes with similar leakage and roughness estimates

Ainola, Leo; Koppel, Tiit; Tiiter, K.; Vassiljev, Anatoli Proceedings of ASCE's 2000 : Joint Conference on Water Resources Engineering and Water Resources Planning & Management 2000 / [9] p., [CD-ROM]
https://www.researchgate.net/publication/268593940_Water_Network_Model_Calibration_Based_on_Grouping_Pipes_with_Similar_Leakage_and_Roughness_Estimates

Water quality in networks in the conditions of substantial decrease of water consumption

Koppel, Tiit; Kändler, Nils; Tiiter, K.; Vassiljev, Anatoli Proceedings : Frontiers in urban water management : Deadlock or hope? : symposium, 18-20 June 2001, Marseille, France 2001 / p. 38-45 : ill

Vene-eesti veesõnaraamat

Tibar, Harri; Maastik, Aleksander; Karu, Jaan; Mölder, Heino; Koppel, Tiit 1990 https://www.ester.ee/record=b1218771*est

Ventilaatorid

Koppel, Tiit 2013 http://www.ester.ee/record=b2970668*est

Ühisveevärk

Mölder, Heino; Suurkask, Valdu; Koppel, Tiit; Metslang, Mihkel 2003 https://www.ester.ee/record=b1799313*est

Алгоритм управления работой скважинных насосов

Karu, Jaan; Koppel, Tiit; Pedak, H.; Tiiman, Ago Неустойчивые процессы в системах водоснабжения и водоотведения 1989 / с. 7-18

Анализ возникновения и развития турбулентности при ускоренном движении жидкости в трубе

Kask, Endel; Koppel, Tiit Неустойчивые процессы в системах водоснабжения и водоотведения 1987 / с. 42-46

Анализ работы водопроводной сети г. Пярну на ЭВМ

Silm, M. XXXII студенческая научно-техническая конференция вузов Прибалтийских республик, Белорусской ССР и Молдавской ССР, 19-21 апреля 1988 г. : тезисы докладов : [в 3-х частях], ч. 3 1988 / с. 136

https://www.ester.ee/record=b1571601*est

Визуализация пограничного слоя при ускоренном движении жидкости в трубе

Kask, Endel; Koppel, Tiit Гидроаэродинамика и динамика систем управления 1987 / с. 117-122

Визуализация разгона жидкости с поплавком в короткой трубе

Kask, Endel; Koppel, Tiit Неустойчивые процессы в системах водоснабжения и водоотведения 1984 / с. 13-19

Гидравлика и пневматика

Reedik, Vello; Grossschmidt, Gunnar; Vanaveski, Jüri; Pais, Enno; Pahapill, Jaak; Ainola, Leo; Liiv, Uno; Ruustal, Endel; Kask, Endel; Koppel, Tiit; Lepp, Andres; Ruubel, R.; Sarv, Laur; Daniel, Eghert; Tiiman, Ago; Kõiv, Teet-Andrus 1987

https://www.ester.ee/record=b1317064*est

Измерительный комплекс для изучения гидродинамических процессов при течении жидкости в трубе

Kask, Endel; Koppel, Tiit; Lepp, Andres; Ruubel, R.; Sarv, Laur Гидроаэродинамика и динамика систем управления 1987 / с. 81-88

Изучение нестационарного течения жидкости в трубе методом визуализации

Kask, Endel; Koppel, Tiit Неустойчивые процессы в системах водоснабжения и водоотведения 1983 / с. 55-62 : ил

https://www.ester.ee/record=b1288813*est <https://digikogu.taltech.ee/et/Item/8421bbec-80f9-4a7b-bbfa-deb3bcbf3a68>

Интегральные соотношения и параметры течения при нестационарных движениях жидкости в цилиндрических трубах

Ainola, Leo; Koppel, Tiit; Liiv, Uno Шестой Всесоюзный съезд по теоретической и прикладной механике, Ташкент, 24-30 сентября 1986 г. : аннотация докладов 1986 / с. 1-20

Исследование замены режима ламинарного нестационарного движения турбулентным в трубах

Ainola, Leo; Koppel, Tiit; Lamp, Jürgen; Liiv, Uno Пятый Всесоюзный съезд по теоретической и прикладной механике, Алма-Ата, 27 мая - 3 июня 1981 года : аннотации докладов 1981 / с. ? https://www.ester.ee/record=b2682342*est

Исследование касательных напряжений на стенке трубопровода при нестационарном напорном течении жидкостей : автореферат ... кандидата технических наук (05.14.09)

Koppel, Tiit 1975 http://www.ester.ee/record=b1664483*est

Исследование касательных напряжений на стенке трубопровода при нестационарном напорном течении жидкостей : диссертация ... кандидата технических наук : 05.14.09 - гидравлика и инженерная гидрология

Koppel, Tiit 1975 http://www.ester.ee/record=b2307049*est

Исследование локальных скоростей при разгонном движении жидкости из состояния покоя в трубе

Ainola, Leo; Koppel, Tiit; Lamp, Jürgen; Liiv, Uno Прогнозирование и регулирование качества воды водоемов и исследование методов очистки природных и сточных вод 1980 / с. 35-45 : ил https://www.ester.ee/record=b1283634*est <https://digikogu.taltech.ee/et/Item/dcc66d6e-5806-4d18-869a-be4e1dcef643>

Методы визуализации, используемые при исследовании нестационарного течения

Kask, Endel; Koppel, Tiit Неустойчивые процессы в системах водоснабжения и водоотведения 1988 / с. 54-59

О движении жидкости с поплавком в трубе

Daniel, Eghert; Kask, Endel; Koppel, Tiit; Ruubel, R. Всесоюзная научно-техническая конференция "Контейнерный трубопроводный транспорт" (г.Новополоцк, 1984 г.) 1984 / с. 63-64

О коэффициенте трения для ламинарных нестационарных течений в трубе

Ainola, Leo; Koppel, Tiit; Lamp, Jürgen; Liiv, Uno; Eensalu, Olav Неустойчивые процессы в системах водоснабжения и водоотведения 1981 / с. 3-15 : ил https://www.ester.ee/record=b1319728*est <https://digikogu.taltech.ee/et/Item/a29e3511-a15e-4820-91bd-9a53eb726784>

О критериях перехода ламинарной формы течения в турбулентную при разгонном движении жидкости в круглой трубе

Ainola, Leo; Koppel, Tiit; Lamp, Jürgen; Liiv, Uno Неустойчивые процессы в системах водоснабжения и водоотведения 1981 / с. 17-29 : илл https://www.ester.ee/record=b1319728*est <https://digikogu.taltech.ee/et/Item/a29e3511-a15e-4820-91bd-9a53eb726784>

Определение шероховатости труб для модели сети водоснабжения

Koppel, Tiit; Vassiljev, Anatoli International Trade Fair and Congress 2008 / [1] p

Определение шероховатости труб для модели системы водоснабжения, включающей трубы разного возраста

Koppel, Tiit; Vassiljev, Anatoli ЭКВАТЕК2006 Москва : сборник докладов. 1 2006 / с. 536

Особенности измерения вектора скорости потоков в цилиндрической трубе лазерным измерителем скорости

Aitsam, Alar; Koppel, Tiit XXX студенческая научно-техническая конференция вузов Прибалтийских республик, Белорусской ССР и Молдавской ССР, 8-10 апреля 1986 года : тезисы докладов. Том I, Общественные науки. Физико-математические науки. Строительство. Экономика 1986 / с. 102 https://www.ester.ee/record=b1305540*est

Процесс турбулизации потока при ускорении жидкости в цилиндрической трубе

Daniel, Eghert; Koppel, Tiit Неустойчивые процессы в системах водоснабжения и водоотведения 1985 / с. 109-122

Разгонное движение жидкости с поплавком в трубе

Kask, Endel; Koppel, Tiit; Ruubel, R. Неустойчивые процессы в системах водоснабжения и водоотведения 1985 / с. 59-72

Разработка АСУ ТП водопровода небольшого города

Karu, Jaan; Koppel, Tiit; Sarv, Laur; Tiiman, Ago Неустойчивые процессы в системах водоснабжения и водоотведения 1988 / с. 16-24

Разработка модели системы водопроводной сети

Kändler, Nils; Koppel, Tiit; Vassiljev, Anatoli Четвертый международный конгресс "Вода : экология и технология" : ЭКВАТЕК-2000 : Москва, 30 мая - 2 июня 2000 : тезисы докладов 2000 / с. 369-370

Руководство-дневник по производственной практике

1987 https://www.ester.ee/record=b3863062*est

Санитарная техника

Tibar, Harri; Paal, Leopold; Mölder, Heino; Ütt, Jaanus; Lode, Elve; Kurbatov, V.A.; Toomet, Madis; Kask, Endel; Koppel, Tiit; Dumkina, Galina; Ruubel, R. 1987 https://www.ester.ee/record=b1294161*est

Санитарная техника

Suurkask, Valdu; Mölder, Heino; Help, Kalju; Ütt, Jaanus; Blonskaja, Viktoria; Vostrikov, Valeri; Karu, Jaan; Koppel, Tiit; Sarv, Laur; Tiiman, Ago; Säärekönnö, Jüri; Kirt, Enno; Kõiv, Teet-Andrus; Kask, Endel; Aitsam, Alar; Daniel, Eghert; Sarv, Laur; Ainola, Leo; Liiv, Uno 1988 https://www.ester.ee/record=b1223647*est

Санитарная техника

Tibar, Harri; Paal, Leopold; Viies, Vladimir; Suurkask, Valdu; Karu, Jaan; Koppel, Tiit; Pedak, H.; Tiiman, Ago; Aitsam, Alar; Daniel, Eghert; Sarv, Laur; Kikas, K.; Blonskaja, Viktoria; Vostrikov, Valeri; Mölder, Heino; Säärekönnö, Jüri; Liiv, Uno; Gross, M. 1989 https://www.ester.ee/record=b1232430*est

Санитарная техника

Suurkask, Valdu; Kask, Endel; Paal, Leopold; Koppel, Tiit; Ainola, Leo; Liiv, Uno; Karu, Jaan; Säärekönnö, Jüri; Tibar, Harri; Mölder, Heino; Repin, B.N.; Ütt, Jaanus; Kõiv, Teet-Andrus 1984 https://www.ester.ee/record=b1515123*est

Санитарная техника

Tibar, Harri; Veski, A.; Karu, Jaan; Suurkask, Valdu; Hääl, Maire-Liis; Säärekönnö, Jüri; Bomze, Z.; Munter, Rein; Kamenev, Sven; Preis, Sergei; Siirde, Enno; Hudak, V.I.; Pikkov, Lui; Kask, Endel; Koppel, Tiit; Ruubel, R.; Daniel, Eghert; Liiv, Uno; Sarv, Laur; Ainola, Leo; Ruustal, Endel; Koppel, Tiit; Toomet, Madis 1985 https://www.ester.ee/record=b1255730*est

Система для накопления и обработки экспериментальных данных гидравлических исследований

Haavel, Rein; Koppel, Tiit; Liiv, Uno Сборник статей по санитарной технике. 10 1975 / с. 37-43 : илл https://www.ester.ee/record=b2084885*est <https://digikogu.taltech.ee/et/Item/db37b17f-7b32-4060-8994-b23a7fa29638>

Создание калиброванных моделей водопроводных сетей и оптимизация работы насосных станций в условиях резкого снижения водопотребления

Koppel, Tiit; Karu, Jaan Третий международный конгресс "Вода: экология и технология" : "ЭКВАТЭК-98", Москва, 25-30 мая 1998 г. : тезисы докладов 1998 / с. 263-264

Спектральное распределение энергии в слое смешения нестационарного отрывного течения в канале с открытой поверхностью

Koppel, Tiit Гидроаэродинамика и динамика систем управления 1983 / с. 27-39 : ил https://www.ester.ee/record=b1273193*est
<https://digikogu.taltech.ee/et/Item/6eddf5c2-8425-45ed-8c1b-1a000c6f681a>

Спектральный анализ ускоренного турбулентного движения жидкости в трубопроводах

Ainola, Leo; Koppel, Tiit; Lamp, Jürgen; Liiv, Uno Неустановившееся движение жидкости в трубах 1980 / с. 3-15 : илл https://www.ester.ee/record=b1263941*est <https://digikogu.taltech.ee/et/Item/aeac2da9-cb51-4746-9dc3-c435104586eb>

Спектральный состав турбулентности в слое смешения

Daniel, Eghert XXVI студенческая научно-техническая конференция вузов Молдавской ССР, Белорусской ССР и Прибалтийских республик, 21-23 апреля 1982 года : тезисы докладов. Часть 2, Химия и технология, механика, строительство 1982 / с. 207-208 https://www.ester.ee/record=b5165223*est

Уравнения движения возмущений ламинарного нестационарного течения сжимаемой жидкости в цилиндрической трубе

Ainola, Leo; Koppel, Tiit Неустановившиеся процессы в системах водоснабжения и водоотведения 1983 / с. 37-45 https://www.ester.ee/record=b1288813*est <https://digikogu.taltech.ee/et/Item/8421bbec-80f9-4a7b-bbfa-deb3bcbf3a68>

Экспериментальное исследование возникновения движения жидкости в трубопроводах

Koppel, Tiit; Liiv, Uno Известия Академии наук. Механика жидкости и газа 1977 / с. 79-85 https://www.ester.ee/record=b1255929*est

Экспериментальное определение уровня пульсации касательных напряжений на стенке трубопровода при переходном движении жидкости

Koppel, Tiit; Liiv, Uno Прогнозирование и регулирование качества воды водоемов и исследование методов очистки природных и сточных вод 1977 / с. 43-48 : илл https://www.ester.ee/record=b1309563*est <https://digikogu.taltech.ee/et/Item/b7ac8308-bd5f-45bf-8000-222db26ff1a1>

Электромагнитные расходомеры с кодированным выходным сигналом для измерения быстропеременных скоростей в трубопроводах

Kask, Endel; Koppel, Tiit; Korsen, Viljo; Liiv, Uno; Rosmann, Mart-Rein Сборник статей по санитарной технике. 10 1975 / с. 45-51 : илл https://www.ester.ee/record=b2084885*est <https://digikogu.taltech.ee/et/Item/db37b17f-7b32-4060-8994-b23a7fa29638>