

PEER-REVIEWED PUBLICATIONS

BOOKS

1. A.B.Bakushinsky, M.Yu.Kokurin, A.B.Smirnova, *Iterative Methods for Ill-Posed Problems. An Introduction, Ill-Posed Problems Series 54, De Gruyter, Germany*, 138 pp, 2010.

PAPERS

1. A.B. Smirnova, B. Pidgeon, R. Luo, *On Stable Parameter Estimation and Short-term Forecasting with Quantified Uncertainty for COVID-19 Transmission, Journal of Inverse and Ill-Posed Problems*, published online by De Gruyter April 7, 2022, DOI: <https://doi.org/10.1515/jiip-2021-0037>.
2. A. Smirnova, B. Pidgeon, G. Chowell, Y. Zhao, *The Doubling Time Analysis for Modified Infectious Disease Richards Model with Applications to COVID-19 Pandemic, Mathematical Biosciences and Engineering*, 19, N3, 3242-3268. DOI: [10.3934/mbe.2022150](https://doi.org/10.3934/mbe.2022150) (2022).
1. A. Smirnova, L. DeCamp, G. Chowell, *Mathematical analysis of doubling times to investigate the early spread of epidemics: Application to the COVID-19 pandemic, Mathematics (ISSN 2227-7390). Special Issue - Mathematical Biology: Developments in Epidemic and Endemic Models*, 9, N6, 625; DOI: <https://doi.org/10.3390/math9060625> (2021).
2. A. Smirnova, A.B. Bakushinsky, *On Iteratively Regularized Predictor-Corrector Algorithm for Parameter Identification, Inverse Problems*, 36 124008 (2020).
3. A.B. Bakushinsky, A. Smirnova, *A Study of Frozen Iteratively Regularized Gauss-Newton Algorithm for Nonlinear Ill-Posed Problems under Generalized Normal Solvability Condition, Journal of Inverse and Ill-Posed Problems*, First online: 07 February 2020, DOI: <https://doi.org/10.1515/jiip-2019-0099>, 28, N2, 275–286 (2020).
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6. A. Smirnova, B. Sirb, G. Chowell, *On Stable Parameter Estimation and Forecasting in Epidemiology by the Levenberg-Marquardt Algorithm with Broyden's Rank-one Updates for the Jacobian Operator*, **Bulletin of Mathematical Biology**, First online: 23 July 2019, DOI: <https://doi.org/10.1007/s11538-019-00650-9>, 81, 4210–4232 (2019).
7. A. Smirnova, *On TSVD Regularization for a Broyden-type Algorithm*, **Journal of Inverse and Ill-Posed Problems**, 26, N4, 551–564, ISSN (Online) 1569-3945, ISSN (Print) 0928-0219, DOI: <https://doi.org/10.1515/jiip-2017-0086> (2018).
8. A. Smirnova and G. Chowell, *A Primer on Stable Parameter Estimation and Forecasting in Epidemiology by a Problem-oriented Regularized Least Squares Algorithm*, **Infectious Disease Modelling**, 2, N2, 268-275 (2017).
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19. A.B. Bakushinsky, A.B. Smirnova, H.Liu, *Theoretical and Numerical Study of Iteratively Truncated Newton's Algorithm*. In ***Springer Series 'Applied Inverse Problems'***, Vol. 48, 1-14, Editor: L. Beilina (2013).
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22. A.B. Smirnova, N. Tuncer, *Inverse Problem of Groundwater Modeling By Iteratively Regularized Gauss-Newton Method with a Nonlinear Regularization Term*, ***Journal of Nonlinear Analysis Series A: Theory, Methods & Applications***, 74, N17, 5987-5998 (2011).
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- A.B.Smirnova, *Regularization of Nonlinear Unstable Operator Equations by Gauss-Newton-type Algorithm with Simultaneous Updates of Inverse Derivative*, *Proceedings of Russian Conference 'Algorithmic Analysis of Ill-Posed Problems'*, 99-100, February (2004), Ekaterinburg, Russia.
- A.B.Smirnova, *Continuous Gauss-Newton-type Algorithm for Nonlinear Ill-Posed Operator Equations with Simultaneous Updates of the Regularized Frechet Derivative*, *Proceedings of International Conference 'Kolmogorov and Contemporary Mathematics'*, 246-247, June (2003), Moscow, Russia.
- S.J.Coopender, D.Finkel, J.Kyzar, R.Sims, A.B.Smirnova, M.Tawhid, C.E. Bouton, R.C.Smith, *Modeling and Optimization Issues Concerning a Circular Piezoelectric Actuator Design*. *Proceedings of the International Mechanical Engineering Congress / Exposition*, 14-19, November (1999), Nashville, TN.