LIST OF PUBLICATIONS

Maya G. Neytcheva

Published in scientific journals:

J1 Yang Cao, Maya Neytcheva, Cell-by-cell approximate Schur complement technique in preconditioning of meshfree discretized piezoelectric equations, *Numerical Linear Algebra with Applications*, 29 (2021). Published Online: 2021-02-08. DOI https://doi.org/10.1002/nla.2362


**Chapter in a book:**


Editor in Conference Proceedings volumes and Special issues:


Published in Conference Proceedings:


**Internal reports and work in progress:**

I 1 Owe Axelsson, Maya Neytcheva, Preconditioners for two-by-two block matrices with square blocks, TR 2018-010 May 2018, Department of Information Technology, Uppsala University, http://www.it.uu.se/research/publications/reports/2018-010/.

I 2 Owe Axelsson, Zhao-Zheng Liang, Maya Neytcheva, Parallel solution methods and preconditioners for evolution equations. TR 2017-017 August 2017, Department of Information Technology, Uppsala University, http://www.it.uu.se/research/publications/reports/2017-017/. *(Published.)*

I 3 Zhao-Zheng Liang, Owe Axelsson, Maya Neytcheva, A robust structured preconditioner for time-harmonic parabolic optimal control problems. TR 2017-014 August 2017, http://www.it.uu.se/research/publications/reports/2017-014/. *(Published.)*


I 5 Marco Donatelli, Ali Dorostkar, Mariarosa Mazza, Maya Neytcheva, Stefano Serra-Capizzano, A block multigrid strategy for two-dimensional coupled PDEs.TR 2016-001, Department of Information Technology, Uppsala University, *(Published.)*

I 6 Owe Axelsson, Shiraz Farouq, Maya Neytcheva, A preconditioner for optimal control problems, constrained by Stokes equation with a time-harmonic control. TR 2015-036, Department of Information Technology, Uppsala University, December 2015. *(Published.)*
I 17 Owe Axelsson, Shiraz Farouq, Maya Neytcheva, Preconditioning techniques for discrete PDE-constrained optimization problems. Stokes control. TR 2015-030, Department of Information Technology, Uppsala University, September 2015. (Published.)

I 18 Owe Axelsson, Shiraz Farouq, Maya Neytcheva, Comparison of preconditioned Krylov subspace iteration methods for PDE-constrained optimization problems. Poisson and convection-diffusion control. TR 2015-024, Department of Information Technology, Uppsala University, August 2015. (Published.)

I 19 Ali Dorostkar, Maya Neytcheva, Stefano Serra-Capizzano, Schur complement matrix and its (elementwise) approximation: A spectral analysis based on GLT . TR 2015-011, Department of Information Technology, Uppsala University, February 2015. (Published.)

I 10 Ali Dorostkar, Maya Neytcheva, Stefano Serra-Capizzano, Spectral analysis of coupled PDEs and of their Schur complements via the notion of Generalized Locally Toeplitz sequences, TR 2015-008, Department of Information Technology, Uppsala University, February 2015. (Published.)

I 11 Ali Dorostkar, Björn Lund, Maya Neytcheva, On some block-preconditioners for saddle point systems and their CPU-GPU performance, TR 2015-003, Department of Information Technology, Uppsala University, January 2015. (Published.)

I 12 Ali Dorostkar, Dimitar Lukarski, Björn Lund, Maya Neytcheva, Yvan Notay, Peter Schmidt, Performance study of block-preconditioned iterative methods on multicore computer systems and GPU. TR 2014-007, Department of Information Technology, Uppsala University, March 2014.

I 13 Owe Axelsson, Maya Neytcheva, Bashir Ahmad, A comparison of iterative methods to solve complex valued linear algebraic systems. TR 2013-005, Department of Information Technology, Uppsala University, March 2013. (Published.)

I 14 Xin He, Marcus Holm, Maya Neytcheva, Efficient implementations of the inverse Sherman-Morrison algorithm. TR 2012-017, Department of Information Technology, Uppsala University, August 2012. (Published.)

I 15 Owe Axelsson, Xin He, Maya Neytcheva, Numerical solution of the time-dependent Navier-Stokes equation for variable density-variable viscosity. TR 2012-019, Department of Information Technology, Uppsala University, August 2012.

I 16 Petia Boyanova, Maya Neytcheva. Efficient preconditioners for large scale ternary Cahn-Hilliard models. TR 2012-009, Department of Information Technology, Uppsala University, April 2012. (Published.)

I 17 O. Axelsson, P. Boyanova, M. Kronbichler, M. Neytcheva, X. Wu, Numerical and computational efficiency of solvers for two-phase problems TR 2012-002, Department of Information Technology, Uppsala University, January 2012. (Published.)
I18 Owe Axelsson, Maya Neytcheva, An incremental load approach to solve nonlinear equations with and application for the Cahn-Hilliard equation. Under preparation.

I19 Petia Boyanova, Minh Do-Quang, Maya Neytcheva. Efficient preconditioners for large scale binary Cahn-Hilliard models, TR 2011-011, Department of Information Technology, Uppsala University, April 2011. (*Published.*)

I20 Owe Axelsson, Maya Neytcheva, Operator splittings for solving nonlinear, coupled multiphysics problems with an application to the numerical solution of an interface problem. TR 2011-009, Department of Information Technology, Uppsala University, April 2011.

I21 Petia Boyanova, Minh Do-Quang, Maya Neytcheva. Solution methods for the Cahn-Hilliard equation discretized by conforming and non-conforming finite elements, TR 2011-004, Department of Information Technology, Uppsala University, March 2011. (*Published.*)

I22 Owe Axelsson and Maya Neytcheva. A general approach to analyse preconditioners for two-by-two block matrices TR 2010-029, Department of Information Technology, Uppsala University, November 2010. (*Published.*)

I23 Xin He, Maya Neytcheva, and Stefano Serra Capizzano. On an Augmented Lagrangian-based preconditioning of Oseen type problems TR 2010-026, Department of Information Technology, Uppsala University, November 2010. (*Published.*)

I24 M. Neytcheva, E. Bångtsson, E. Linnér. Finite-element based sparse approximate inverses for block-factorized preconditioners. TR 2010-010, Department of Information Technology, Uppsala University, March 2010. (*Published.*)


131 O. Axelsson, M. Neytcheva. Preconditioning methods for constrained optimization problems with applications for the linear elasticity equations Report 0302, January 2003, Department of Mathematics, University of Nijmegen, The Netherlands. (Published.)


135 O. Axelsson, M. Neytcheva, The Short Length AMLI Method. I. Report 9417, April 1994, Department of Mathematics, University of Nijmegen, The Netherlands. (Published.)

136 O. Axelsson, M. Neytcheva, B. Polman, The Bordering method as a preconditioning method, Report 9348, December 1993, Department of Mathematics, University of Nijmegen, The Netherlands. (Published.)


**Popular Science contributions:**


**Other publications and written material:**

O 2  O. Axelsson and M. Neytcheva, Lecture notes on *Supercomputers and Numerical Linear Algebra* (By December 15, 1996 contains 350 pages.)