

张乃敏教师简介

一、 个人基本情况：

姓 名：张乃敏

性 别： 男

出生年月： 1971. 10

民 族： 汉族

职称职务： 教授

政治面貌： 九三社员

最后学历： 博士研究生

最高学位： 理学博士

工作单位： 温州大学数电学院

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二、 从事研究的专业领域及主要研究方向

研究的专业领域： 计算数学

主要研究方向： 数值代数，大规模科学与工程计算，神经网络计算

三、 主要工作经历

1997.9-2000.8 大连大学数学系工作

2003.9-2005.8 大连理工大学应用数学系博士后流动站工作

2005.9-至今 温州大学数电学院工作

四、 近年来主持的主要教学科研项目

1. 国家自然科学基金面上项目：动量项学习算法的确定型收敛性及应用研究。
2. 浙江省自然科学基金资助项目：广义定常迭代与奇异预处理子的研究及其应用。
3. 浙江省自然科学基金资助项目：神经网络中带动量项学习算法的收敛性分析及其在数值代数中的应用。
4. 浙江省自然科学基金资助项目：大规模奇异线性方程组的数值算法的研究。

五、 论文目录

1. Perturbation bounds for the generalized inverses $A(T,S,2)$ with application to constrained linear system, Applied Mathematics and Computation, Vol. 142, 2003. (with Y. Wei)
2. Condition number related with generalized inverse $A(T,S,2)$ and constrained linear systems, Journal of Computational and Applied Mathematics, Vol. 157, 2003. (with Y. Wei)

- 3.** A note on the representation and approximation of the outer inverse $A(T,S,2)$ of a matrix A , Applied Mathematics and Computation, Vol. 147, 2004. (with Y. Wei)
- 4.** Further note on constrained preconditioning for nonsymmetric indefinite matrices, Applied Mathematics and Computation, Vol. 152, 2004. (with Y. Wei)
- 5.** Structured perturbations in singular case, Proceedings of the Sixth International Conference on Matrix Theory and its Applications in China, 2004.
- 6.** Solving EP singular linear systems, International Journal of Computer Mathematics, Vol. 81, 2004. (with Y. Wei)
- 7.** Recent developments on convergence of online gradient methods for neural network training, Lecture Notes in Computer Science, Vol. 3173, 2004. (with W. Wu, et al.)
- 8.** A note on solving EP inconsistent linear systems, Applied Mathematics and Computation, Vol. 169, 2005. (with Y. Wei)
- 9.** Convergence of gradient method with momentum for two-layer feedforward neural networks, IEEE Transactions on Neural Networks, Vol. 17, 2006. (with W. Wu, et al.)
- 10.** Online gradient method with a penalty term for BP neural networks, Proceedings of the Seventh China-Japan Seminar on Numerical Mathematics, 2006. (with W. Wu, et al.)

- 11.** Deterministic convergence of an online gradient method with momentum, *Lecture Notes in Computer Science*, Vol. 4113, 2006.
- 12.** Tikhonov Regularization for Weighted Total Least Squares Problems, *Applied Mathematics Letters*, Vol. 20, 2007. (with Y. Wei, et al.)
- 13.** Quotient Convergence and Multi-splitting Methods for Solving Singular Linear Equations, *Calcolo*, Vol. 44, 2007. (with X. Cui, et al.)
- 14.** Convergence of gradient method with momentum for back-propagation neural networks, *Journal of Computational Mathematics*, Vol. 26, 2008. (with W. Wu, et al.)
- 15.** A note on the perturbation of an outer inverse, *Calcolo*, Vol. 45, 2008. (with Y. Wei)
- 16.** Convergence and Quotient Convergence of Iterative Methods for Solving Singular Linear Equations with Index One, *Linear Algebra and its Applications*, Vol. 430, 2009. (with L. Lin, et al.)
- 17.** An online gradient method with momentum for two-layer feedforward neural networks, *Applied Mathematics and Computation*, Vol. 212, 2009.
- 18.** On the convergence of general stationary iterative methods for range-Hermitian singular linear systems, *Numerical Linear Algebra with Applications*, Vol. 17, 2010. (with Y. Wei)
- 19.** A note on preconditioned GMRES for solving singular linear systems, *BIT Numerical Mathematics*, Vol. 50, 2010.

- 20.** Convergence analysis for double splitting methods for solving singular positive semidefinite linear systems, Proceedings of the Ninth International Conference on Matrix Theory and its Applications, Vol. 2, 2010. (with J. Cheng)
- 21.** Momentum algorithms in neural networks and the applications in numerical algebra, AIMSEC, 2011.
- 22.** A note on block-diagonally preconditioned PIU methods for singular saddle point problems, International Journal of Computer Mathematics, Vol. 88, 2011. (with H. Ma)
- 23.** Some convergence conditions for P-regular splitting for solving non-Hermitian linear systems, 2012 International Conference on Computational Problem-Solving, ICCP 2012, IEEE Computer Society. (with Z. Chao)
- 24.** Constraint preconditioners for solving singular saddle point problems, Journal of Computational and Applied Mathematics, Vol. 238, 2013. (with P. Shen)
- 25.** Convergence of P-regular splitting iterative methods for non-Hermitian positive semidefinite linear systems, International Journal of Computer Mathematics, Vol. 90, 2013. (with Z. Chao, et al.)
- 26.** Semistability of Steepest Descent with Momentum for Quadratic Functions, Neural Computation, Vol. 25, 2013.
- 27.** GMSSOR methods for solving singular augmented systems,

Proceedings-2013 International Conference on Computational and Information Sciences, ICCIS 2013, IEEE Computer Society. (with L. Zhou)

28. Semi-convergence analysis of Uzawa methods for singular saddle point problems, Journal of Computational and Applied Mathematics, Vol. 255, 2013. (with T. Lu, et al.)

29. Optimal parameters of the generalized symmetric SOR method for augmented systems, Journal of Computational and Applied Mathematics, Vol. 266, 2014. (with Z. Chao)

30. A note on the generalization of parameterized inexact Uzawa method for singular saddle point problems, Applied Mathematics and Computation, Vol.235, 2014. (with Y. Chen)

31. A generalized preconditioned HSS method for singular saddle point problems, Numerical Algorithms, Vol. 66, 2014. (with Z. Chao)

32. Brief derivation for optimal iteration parameters in GSOR method, Communication on Applied Mathematics and Computation, Vol. 28, 2014. (with Z. Chao, et al.).

33. Semi-convergence analysis of GMSSOR methods for singular saddle point problems, Computers and Mathematics with Applications, Vol. 68, 2014. (with L. Zhou).

34. A study on the optimal double parameters for steepest descent with momentum, Neural Computation, Vol. 27, 2015.

35. On parameter acceleration methods for saddle point problems, Journal of Computational and Applied Mathematics, Vol.288, 2015.

36. On the optimal parameters of GMSSOR method for saddle point problems, Applied Mathematics Letters, Vol. 55, 2016. (with Y. Bi, et al.)

37. A note on parameterized preconditioned method for singular saddlepoint problems, Journal of Applied Mathematics and Physics, Vol. 4, 2016. (with Y. Lv)

38. A triple-parameter modified SSOR method for solving singular saddle point problems, BIT Numerical Mathematics, Vol. 56, 2016. (with J. Li)

六、 研究生培养情况

已培养研究生 19 名，目前指导在读研究生 5 名。

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