Scientific Lectures in English

Kaori Nagato-Plum
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1. Numerical verifications for eigenvalues of elliptic operators, 8-10 September 1998, International Workshop on Verified Numerical Computation (IWVNC), International Conference Center, Waseda University, Japan.

2. Verified Numerical Computations for Eigenvalues of Non-Commutative Harmonic Oscillators, 11-16 July 1999, Gregynog Workshop on Computation and Analytic Problems in Spectral Theory, University of Wales, Gregynog Hall, Newtown(Powys), United Kingdom.

3. An enclosure method for eigenvalues of the elliptic operator linearized at an exact solution of a nonlinear problem, 19 July 1999, Mathematics colloquium, University of Karlsruhe, Germany.

4. Verified numerical computations for eigenvalues of non-commutative harmonic oscillators, 21-25 August 2000, The Fifth China-Japan Joint Seminar on Numerical Mathematics, Shanghai Jiao-Tong University, Shanghai, China.

5. Verified numerical computations for eigenvalues of non-commutative harmonic oscillators, 18-22 September 2000, 9th GAMM-IMACS International Symposium on Scientific Computing, Computer Arithmetic, and Validated Numerics (SCAN 2000), joint International Conference on Interval Methods in Science and Engineering, Karlsruhe, Germany.

6. A computer assisted proof of the stability in Kolmogorov's problem of viscous incompressible fluid on 2-D flat tori, 24-27 September 2002, 10th GAMM-IMACS International Symposium on Scientific Computing, Computer Arithmetic, and Validated Numerics (SCAN 2002), Paris, France.

7. Numerical verification for stationary solutions of the driven cavity problem, 16-20 August 2004, The 7th China-Japan Joint Seminar on Numerical Mathematics, Zhangjiajie, Hunan, China.

8. Numerical verification of stationary solutions to Navier-Stokes problems, 4-8 October 2004, 11th GAMM-IMACS International Symposium on Scientific Computing, Computer Arithmetic, and Validated Numerics (SCAN 2004), Fukuoka, Japan.

9. Numerical Verification for Partial Differential Equations - Introduction to Nakao's theory -, 23-27 May 2005, SciCADE05 (International Conference on Scientific Computation and Differential Equations), Nagoya Congress Center (NCC), Nagoya, Japan.

10. Spectral enclosing and excluding for infinite dimensional eigenvalue problems, 24-29 July 2005, The Fifth Gregynog Workshop on Computation and Analytic Problems in Spectral Theory, University of Wales, Gregynog Hall, Newtown(Powys), United Kingdom.

11. An eigenvalue enclosing and excluding method in gaps of essential spectrum, 25-30 September 2005, Dagstuhl seminar 05391: Algebraic and Numerical Algorithms and Computer-assisted Proofs, Schloss Dagstuhl, International Conference and Research Center for Computer Science, Germany.

12. Enclosing and excluding methods for eigenvalues in essential spectrum gaps, 20-22 November 2005, Workshop on Numerical Analysis of Flow Problems and Validated Computations, Nagasaki Washington Hotel, Nagasaki, Japan.

13. Verified numerical computations for infinite dimensional eigenvalue problems, 19th September 2006, Mathematics colloquium, University of Karlsruhe, Germany.

14. Validated computation for infinite dimensional eigenvalue problems, 26-29 September 2006, 12th GAMM-IMACS International Symposium on Scientific Computing, Computer Arithmetic, and Validated Numerics (SCAN 2006), Duisburg, Germany. **(Plenary Talk)**

15. Validated computations for a Schrödinger equation with essential spectrum, 15th February 2007, Mathematics colloquium, University of Debrecen, Hungary.

16. Eigenvalue excluding in essential spectrum gaps, 26 February - 3 March 2007, International Workshop on Numerical Verification and its Applications, Waseda University, Tokyo, Japan.

17. A validated computation tool for the Perron-Frobenius eigenvalue using graph theory, 13 March 2007, Programme "Analysis on Graphs and its Applications", Isaac Newton Institute for Mathematical Sciences, Cambridge, United Kingdom.

18. Validated computation of the Perron-Frobenius eigenvalue, 20 March 2007, Gastvortrag, Institut für Zuverlässiges Rechnen, Technische Universität Hamburg-Harburg, Hamburg, Germany.

19. A numerical verification method for a Schrödinger equation with essential spectrum, 6 September 2007, Differencialegyenletek Szeminarium, University of Szeged, Hungary.

20. Eigenvalue problems for 1-D Schrödinger operators, 9-15 September 2007, Conference on Inequalities and Applications '07, De La Motte Castle, Noszvaj, Hungary.

21. Validated computations for a Schrödinger operator with band-gap essential spectrum, 17 September 2007, NOLTA 2007 Mini-workshop, Simon Fraser University at Harbour Centre, Vancouver, Canada.

22. Validated computations for fundamental solutions of linear ordinary differential operators, 18 September 2007, NOLTA 2007 Special Session, Simon Fraser University at Harbour Centre, Vancouver, Canada.

23. Validated computations for spectral problems for 1-D Schrödinger operators, 13-14 October 2007, Workshop on Numerical Verification and its Applications, Gifu University, Japan.

24. Numerical verification for a spectral problem for a 1-D Schrödinger operator, 15-17 January 2008, Spectral and Scattering Theory and Related Topics, RIMS, Kyoto University, Japan. **(Plenary Talk)**

25. A numerical verification method for a spectral problem for a 1-D Schrödinger operator, 19 February 2008, Seminario Modellistica Differenziale Numerica, Universita' di Roma "La Sapienza", Rome, Italy.

26. Non-existence proof of point spectrum in a spectral gap, 1-7 March 2008, 2008 International Workshop on Numerical Verification and its Applications, Okinawa, Japan.

27. Computer Assisted Proofs for Partial Differential Equations, 15-21 June 2008, Numbers, Functions, Equations '08, Noszvaj, Hungary.

28. Eigenvalue excluding for 1-D Schrödinger operators, 12-18 July 2008, The 6th Gregynog Workshop on Computation and Analytic Problems in Spectral Theory, University of Wales, Gregynog Hall, Newtown(Powys), United Kingdom.

29. Validated computations for elliptic systems of FitzHugh-Nagumo type, 29 September - 3 October 2008, 13th GAMM-IMACS International Symposium on Scientific Computing, Computer Arithmetic, and Validated Numerics (SCAN 2008), The University of Texas at El Paso , USA.

30. Computer assisted proofs for differential equations, 26-28 January 2009, The 26th Kyushu Symposium on Partial Differential Equations, Kyushu University (Hakozaki Campus) International Hall, Fukuoka, Japan.

31. A spectral Problem for 3-D Maxwell's Equations, 7-10 March 2009, International workshop on verified computations and related topics, University of Karlsruhe, Germany.

32. Eigenvalue Excluding for 3-D Photonic Crystals, 22-29 March 2009, International Workshop on Numerical Verification and its Applications 2009, Miyako Island, Japan.

33. Orbital stability investigation for travelling waves in a nonlinearly supported beam, 27-29 May 2009, International Conference on Engineering and Computational Mathematics 2009, The Hong Kong Polytechnic University, Hong Kong.

34. Computer Assisted Proofs for Nonlinear Partial Differential Equations, 13-18 September 2009, INDAM Meeting: Theoretical and computational methods in nonlinear differential equations, Centro Residenziale Universitario di Bertinoro, Forli, Italy. **(Plenary Talk)**

35. A Spectral Problem for 3-D Photonic Crystals, 18-22 September 2009, 7th International Conference of Numerical Analysis and Applied Mathematics, Aquila Rithymna Beach, Rethymno, Crete, Greece.

36. Orbital stability investigation for travelling waves in a nonlinearly supported beam, 15-20 November 2009, Dagstuhl seminar 09471: Computer-assisted proofs - tools, methods and applications, Schloss Dagstuhl, International Conference and Research Center for Computer Science, Germany.

37. Orbital stability investigation for travelling waves in a nonlinearly supported beam, 10-15 March, 2010, International Workshop on Numerical Verification and its Applications 2010, Hachijojima, Tokyo, Japan.

38. Computer Assisted Proofs for Partial Differential Equations, 31 March 2010, Mathematics colloquium, University of Kent, Canterbury, Kent, UK.

39. Orbital stability investigation for travelling waves in a nonlinearly supported beam, 20-26 June, 2010, 4th International Conference Computational Methods in Applied Mathematics: CMAM-4, The Mathematical Research and Conference Center, Bedlewo, Poland.

40. Eigenvalue excluding for perturbed-periodic 1D Schrödinger operators, 19-23 August, 2010, The Third China-Japan-Korea Joint Conference on Numerical Mathematics, Gangneung-Wonju National Univerisity, Korea.

41. Eigenvalue excluding for perturbed-periodic 1D Schrödinger operators, 19-25 September, 2010, Conference on Inequalities and Applications '10, Hajdúszoboszló, Hungary.

42. Orbital stability investigation for travelling waves in a nonlinearly supported beam, 17-19 November, 2010, SIAM/MSRI workshop on Hybrid Methodologies for Symbolic-Numeric Computation, Mathematical Sciences Research Institute, Berkeley, California, USA.

43. Computer Assisted Proofs for Nonlinear Partial Differential Equations, 20-21 January, 2011, Computational Aspects and Computer-Assisted Proofs in Nonlinear PDEs, Karlsruhe Institute of Technology, Germany.

44. Eigenvalue excluding for 1D Schrödinger operators and related topics, 11 February, 2011, Instituts-Kolloquium, Karlsruhe Institute of Technology, Germany.

45. Eigenvalue excluding for 1D Schrödinger operators and related topics, 18-24 June, 2011, Gregynog Workshop on Analytic and Computational Techniques in Spectral Theory and Related Topics, University of Wales, Gregynog Hall, Newtown(Powys), United Kingdom.

46. Orbital stability investigation for travelling waves in a nonlinearly supported beam, 30 June, 2011, Workshop in Institut für Analysis, Karlsruhe Institute of Technology, Germany.

47. Verifizierte numerische Methoden für nichtlineare mathematische Modelle aus den Naturwissenschaften, 13 July 2011, Instituts-Kolloquium, University of Rostock, Germany.

48. Eigenvalue excluding for 1D Schrödinger operators and related topics, 18-22 September 2011, Japanese-German Workshop "Computer-Assisted Proofs and Verification Methods", Karlsruhe Institute of Technology, Germany.

49. Explicit examples of interfaces supporting surface gap soliton ground states in the 1D nonlinear Schrödinger equation, 24-26 November 2011, Workshop on reliability in scientific computing and related topics, Sasebo, Japan.

50. Explicit examples of interfaces supporting surface gap soliton ground states in the 1D nonlinear Schrödinger equation, 28.08-02.09 2012, JSIAM 2012, Wakkanai, Japan.

51. Computer Assisted Proofs for Nonlinear Partial Differential Equations, Festkolloquium anlässlich des 80. Geburtstags von Prof. Dr. Ulrich Kulisch, 29.10.2013, Karlsruhe, Germany.

52. Orbital stability investigation for travelling waves in a nonlinearly supported beam, 15-17 March, 2014, 2014 International Workshop on Numerical Verification and its Applications (INVA2014), Waseda, Japan.

53. Explicit examples of interfaces supporting surface gap soliton ground states in the 1D nonlinear Schrödinger equation, 19-20 March 2014, JSIAM 2014, Kyoto, Japan.

54. Orbital stability investigation for travelling waves in a nonlinearly supported beam, 26-29 September 2016, 17th GAMM-IMACS International Symposium on Scientific Computing, Computer Arithmetic, and Validated Numerics (SCAN 2016), Uppsala, Sweden. **(Plenary Talk)**

55. An approach to computer-assisted existence proofs for nonlinear space-time fractional parabolic problems, 7-12 May 2017, Rigorous Numerics for Infinite Dimensional Nonlinear Dynamics (17w5141), Banff International Research Station, Banff, Canada.

56. An approach to computer-assisted existence proofs for nonlinear space-time fractional parabolic problems, 8-10 November 2017, The State of the Art in Numerical Analysis: Theory, Methods, and Applications, RIMS, Kyoto University, Japan.

57. An approach to computer-assisted existence proofs for nonlinear space-time fractional parabolic problems, 23-24 November 2017, Inverse Problems and Related Fields '17, Marseille, France.

58. An approach to computer-assisted existence proofs for nonlinear space-time fractional parabolic problems, 19th February 2018, Kolloquim, Tokyo University, Japan.

59. Orbital stability investigation for travelling waves in a nonlinearly supported beam, 18-23 June 2018, Dynamics, Topology and Computations 2018, Bedlewo, Poland.

60. Computer Assisted Proofs for Nonlinear Partial Differential Equations, 30 August 2019, JST Workshop, Niigata University, Japan.

61. Orbital stability investigation for travelling waves in a nonlinearly supported beam, 2-4 September 2019, Numerical methods for spectral problems: theory and applications, RIMS, Kyoto, Japan.

62. Controllability and Energy-Optimal Control of Time-Variant Fractional Systems, 12 September 2019, HeKKSaGOn University Consortium, The 7th German Japanese University Presidents Conference, Heidelberg, Germany.

63. Orbital stability investigation for travelling waves in a nonlinearly supported beam, 23-26 September 2019, DMV-Jahrestagung, Karlsruhe, Germany.

64. Non-selfadjoint spectral problems related to self-similar blowup in nonlinear wave equations, 26-31 August 2023, Numerical methods for spectral problems: theory and applications, Kushiro, Japan.

65. Non-selfadjoint spectral problems related to self-similar blowup in nonlinear wave equations, 3 July 2024, AG Nichtlineare Partielle Differentialgleichungen, Karlsruhe Institute of Technology, Germany.

66. Non-selfadjoint spectral problems related to self-similar blowup in nonlinear wave equations, 2-5 June 2025, Spectral Theory and Applications in Mathematical Physics, Uni Bern, Bern, Switzerland.

67. Computer Assisted Proofs for Nonlinear Partial Differential Equations, 12 January 2026, Oberseminar im Institut für Angewandte Analysis, Universität Ulm, Germany.