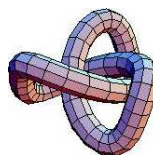


Chemnitz Symposium on Inverse Problems
Chemnitz, Germany, September 27–28, 2007



Chemnitz University of Technology
Department of Mathematics
Analysis – Inverse Problems



Conference Scope

This symposium brought together experts from the German and International Inverse Problems Community and young scientists. The focus was on ill-posedness phenomena, regularization theory and practice and on the analytical, numerical and stochastic treatment of applied inverse problems from natural sciences, engineering and finance.

Conference History

Since 2002, Chemnitz Symposia on Inverse Problems were organized in September every year by the corresponding Chemnitz research group. For scientific details and photos see: <http://www.tu-chemnitz.de/mathematik/inverse-probleme/>

Next symposium was announced for September, 25–26, 2008.

Scientific Board

Bernd Hofmann (Chemnitz), Peter Mathé (Berlin), Ulrich Tautenhahn (Zittau), Lothar von Wolfersdorf (Freiberg)

Honorary Chairpersons

Rudolf Gorenflo (Berlin), Eberhard Schock (Kaiserslautern)

Keynote Speakers

Andreas Neubauer (Linz, Austria), Sergey I. Kabanikhin (Novosibirsk, Russia and Almaty, Kazakhstan), Barbara Kaltenbacher (Stuttgart), Teresa Regińska (Warsaw, Poland), Thomas Schuster (Hamburg)

Organizing Committee

Bernd Hofmann, Marcus Meyer, Nadja Rückert, Matthias Schieck, Kerstin Seidel (Chemnitz)



Scientific Program, September 27, 2007

09.00 - 09.15 Opening

Inaugural address by **Dietrich Zahn**
(Research Vice-Rector of Chemnitz University)

09.15 - 11.20 Session 1, Chair: Peter Mathé (Berlin)

09.15 - 10.00 Andreas Neubauer (Linz, Austria):

Solution of ill-posed problems via adaptive grid regularization

10.00 - 10.40 Teresa Regińska (Warsaw, Poland):

Regularization property of wavelet moment method for Cauchy problems

10.40 - 11.20 Sergey I. Kabanikhin

(Novosibirsk, Russia and Almaty, Kazakhstan):

Multidimensional analog of the Gel'fand-Levitan equation

12.30 - 13.40 Session 2, Chair: Rudolf Gorenflo (Berlin)

12.30 - 13.05 Peter Mathé (Berlin):

Local analysis of inverse problems

13.05 - 13.40 Ulrich Tautenhahn (Zittau):

Regularized total least squares: Computational aspects and error bounds

13.50 - 15.20 Session 3, Chair: Eberhard Sock (Kaiserslautern)

13.50 - 14.20 Adrian Doicu (Oberpfaffenhofen):

A regularization tool for atmospheric remote sensing

14.20 - 14.50 Herbert Egger (Aachen):

Regularization under large noise

14.50 - 15.20 Helmut Harbrecht (Bonn):

Fast methods in 3D inverse obstacle scattering

15.45 - 17.00 Session 4, Chair: Hans-Jürgen Reinhardt (Siegen)

15.45 - 16.10 Sybille Handrock (Chemnitz):

Inverse problems for the Grad-Shafranov equation

16.10 - 16.35 Romy Krämer (Chemnitz):

On some new results concerning a benchmark problem in inverse option pricing

16.35 - 17.00 Bernd Hofmann (Chemnitz):

A note on regularization revisiting P. Mathé's qualification concept

17.10 - 18.00 Session 5, Chair: Arnd Rösch (Duisburg)

17.10 - 17.35 Klaus Krumbiegel (Duisburg):

On the regularization error of a state constrained Neumann optimal control problem - a virtual control concept

17.35 - 18.00 Matthias Schieck (Chemnitz):

The influence of conditional stability on convergence rates for the regularization of linear inverse problems

Scientific Program, September 28, 2007

09.00 - 10.20	Session 6 , Chair: Ulrich Tautenhahn (Zittau)
09.00 - 09.40	Barbara Kaltenbacher (Stuttgart): <i>Goal oriented adaptive discretization in parameter identification for PDEs</i>
09.40 - 10.20	Thomas Schuster (Hamburg): <i>Iterative solution of the split feasibility problem in Banach spaces using metric and Bregman projections</i>
10.45 - 12.20	Session 7 , Chair: Barbara Kaltenbacher (Stuttgart)
10.45 - 11.20	Christiane Pöschl (Innsbruck, Austria): <i>A convergence rates result in Banach spaces with non-smooth operators</i>
11.20 - 11.50	Dirk Lorenz (Bremen): <i>Is sparsity regularizing?</i>
11.50 - 12.20	Frank Bauer (Linz, Austria): <i>Choosing regularization parameters without knowing the noise level in an optimal way</i>
13.25 - 14.55	Session 8 , Chair: Bernd Hofmann (Chemnitz)
13.25 - 13.50	Tom Lahmer (Erlangen): <i>Modified Landweber's iteration in a multilevel setting applied to parameter identification in piezoelectricity</i>
13.50 - 14.15	Kai Sandfort (Karlsruhe): <i>Two inversion schemes and their relations to regularization theory</i>
14.15 - 14.35	Marcus Meyer (Chemnitz): <i>Gradient based methods and evolutionary strategies for the solution of a parameter identification problem - numerical studies</i>
14.35 - 14.55	Nadja Rückert (Chemnitz): <i>Numerical aspects of Dupire's formula</i>
14.55 - 15.00	Closing and Conclusions

B. Hofmann
 Department of Mathematics
 Chemnitz University of Technology
 Reichenhainer Str. 39/41
 D-09107 Chemnitz, Germany