

7th International Workshop on New Computational Methods for Inverse Problems (NCMIP 2017)

Journal of Physics: Conference Series Volume 904

Paris-Saclay, France
12 May 2017

ISBN: 978-1-5108-5035-4
ISSN: 1742-6588

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2017) by the Institute of Physics
All rights reserved. The material featured in this book is subject to
IOP copyright protection, unless otherwise indicated.

Printed by Curran Associates, Inc. (2017)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of contents

Volume 904

**7th International Conference on New Computational Methods for Inverse Problems
12 May 2017, Paris-Saclay, France**

**Accepted papers received: 6 October 2017
Published online: 22 October 2017**

Preface

011001

OPEN ACCESS

[7th International Conference on New Computational Methods for Inverse Problems](#)

011002

OPEN ACCESS

[Peer review statement](#)

Papers

012001

OPEN ACCESS

[Vascular blood flow reconstruction from tomographic projections with the adjoint method and receding optimal control strategy](#)

B Sixou, L. Boissel and M. Sigovan.....1

012002

OPEN ACCESS

[A compressive sensing-based computational method for the inversion of wide-band ground penetrating radar data](#)

A Gelmini, G Gottardi and T Moriyama.....7

012003

OPEN ACCESS

[An inversion strategy for energy saving in smart building through wireless monitoring](#)

N Anselmi and T Moriyama.....13

012004

OPEN ACCESS

[Indoor detection of passive targets recast as an inverse scattering problem](#)

G Gottardi and T Moriyama.....19

012005

OPEN ACCESS

[Filtering techniques for efficient inversion of two-dimensional Nuclear Magnetic Resonance data](#)

V. Bortolotti, L. Brizi, P. Fantazzini, G. Landi and F. Zama.....25

012006

OPEN ACCESS

[Efficient Smoothed Concomitant Lasso Estimation for High Dimensional Regression](#)

Eugene Ndiaye, Olivier Fercoq, Alexandre Gramfort, Vincent Leclère and Joseph Salmon.....35

012007

OPEN ACCESS

[Robust antenna design through a hybrid inversion strategy combining interval analysis and nature-inspired optimization](#)

M Salucci and T Moriyama.....43

012008

OPEN ACCESS

[Brain waves-based index for workload estimation and mental effort engagement recognition](#)

A. Zammouri, S. Chraa-Mesbahi, A. Ait Moussa, S. Zerouali, M. Sahnoun, H. Tairi and A. M. Mahraz.....48

012009

OPEN ACCESS

[A fast subgradient algorithm in image super-resolution](#)

D. Lazzaro, E. Loli Piccolomini, V. Ruggiero and F. Zama.....54

012010

OPEN ACCESS

[Minimum Mean Square Distance Estimation of Subspaces in presence of Gaussian sources with application to STAP detection](#)

R. Ben abdallah, A. Breloy, M. N. El Korso, D. Lautru and H. Hafdallah Ouslimani.....60

012011

OPEN ACCESS

[Magnetization moment recovery using Kelvin transformation and Fourier analysis](#)

L. Baratchart, J. Leblond, E. A. Lima and D. Ponomarev.....66

012012

OPEN ACCESS

[Remarks on a financial inverse problem by means of Monte Carlo Methods](#)

Salvatore Cuomo, Vittorio Di Somma and Federica Sica.....73

012013

OPEN ACCESS

[A fast gradient projection method for 3D image reconstruction from limited tomographic data](#)

V.L. Coli, E. Loli Piccolomini, E. Morotti and L. Zanni.....79

012014

OPEN ACCESS

[Alternating Direction Implicit \(ADI\) schemes for a PDE-based image osmosis model](#)

L. Calatroni, C. Estatico, N. Garibaldi and S. Parisotto.....85

012015

OPEN ACCESS

[A low-rank approach to off-the-grid sparse deconvolution](#)

Paul Catala, Vincent Duval and Gabriel Peyré.....91

012016

OPEN ACCESS

[Adaptive Order Non-Convex \$L_p\$ -norm Regularization in Image Restoration](#)

Manya Afonso and Joao Miguel Sanches.....97

012017

OPEN ACCESS

[Real time groove characterization combining partial least squares and SVR strategies: application to eddy current testing](#)

S Ahmed, M Salucci, R Miorelli, N Anselmi, G Oliveri, P Calmon, C Reboud and A Massa.....103

012018

OPEN ACCESS

[Multi-frequency direct sampling method in inverse scattering problem](#)

Sangwoo Kang, Marc Lambert and Won-Kwang Park.....110

012019

OPEN ACCESS

[3D reconstruction of surface cracks using bi-frequency eddy current images and a direct semi-analytic model](#)

Caifang Cai, Thierry Bore, Florentin Delaine, Nicolas Gasnier and Eric Vourc'h.....116