

11th Edoardo Amaldi Conference on Gravitational Waves (AMALDI 11)

Journal of Physics: Conference Series
Volume 716

Gwangju, South Korea
21 – 26 June 2015

Editors:

**Hyung Mok Lee
John Oh**

ISBN: 978-1-5108-2454-6
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© (2015) 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. (2016)

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 716

11th Edoardo Amaldi Conference on Gravitational Waves (AMALDI 11)
21–26 June 2015, Gwangju, South Korea

Accepted papers received: 29 April 2016
Published online: 2 June 2016

Preface

011001
OPEN ACCESS
[11th Edoardo Amaldi Conference on Gravitational Waves \(AMALDI 11\)](#)

Hyung Mok Lee and John Oh

011002
OPEN ACCESS
[Peer review statement](#)

Papers

012001
OPEN ACCESS
[Terrestrial detector for low-frequency gravitational waves based on full tensor measurement](#)

H J Paik, M V Moody, C E Griggs, H M Lee and E Majorana.....1

012002
OPEN ACCESS
[On the distribution of stellar-sized black hole spins](#)

Alex B. Nielsen.....5

012003

OPEN ACCESS

[Distinguishing transient signals and instrumental disturbances in semi-coherent searches for continuous gravitational waves with line-robust statistics](#)

David Keitel.....10

012004

OPEN ACCESS

[Optical testbed for the LISA phasemeter](#)

T S Schwarze, G Fernández Barranco, D Penkert, O Gerberding, G Heinzel and K Danzmann.....14

012005

OPEN ACCESS

[Measuring Earth: Current status of the GRACE Follow-On Laser Ranging Interferometer](#)

Daniel Schütze on behalf of the LRI team.....18

012006

OPEN ACCESS

[How beaming of gravitational waves compares to the beaming of electromagnetic waves: impacts to gravitational wave detection](#)

Andrew L. Miller and Thulsi Wickramasinghe.....24

012007

OPEN ACCESS

[Tackling excess noise from bilinear and nonlinear couplings in gravitational-wave interferometers](#)

Sukanta Bose, Bernard Hall, Nairwita Mazumder, Sanjeev Dhurandhar, Anuradha Gupta and Andrew Lundgren.....28

012008

OPEN ACCESS

[Comparing interferometry techniques for multi-degree of freedom test mass readout](#)

Katharina-Sophie Isleif, Oliver Gerberding, Moritz Mehmet, Thomas S Schwarze, Gerhard Heinzel and Karsten Danzmann.....36

- 012009
OPEN ACCESS
[Fast response electromagnetic follow-ups from low latency GW triggers](#)
E J Howell, Q Chu, A Rowlinson, H Gao, B Zhang, S J Tingay, M Boér and L Wen.....40
- 012010
OPEN ACCESS
[Experiments driving theory: Gravitational wave detection and the two body problem in general relativity](#)
Bala R. Iyer....44
- 012011
OPEN ACCESS
[Test environments for the GRACE follow-on laser ranging interferometer](#)
A Görth, J Sanjuan, M Gohlke, S Rasch, K Abich, C Braxmaier and G Heinzel.....50
- 012012
OPEN ACCESS
[Inspiral waveforms for spinning compact binaries in a new precessing convention](#)
Anuradha Gupta and Achamveedu Gopakumar.....54
- 012013
OPEN ACCESS
[Search method for an emission line of a GW background](#)
Atsushi Nishizawa and Naoki Seto.....58
- 012014
OPEN ACCESS
[Single-Source Gravitational Wave Limits From the J1713+0747 24-hr Global Campaign](#)
T. Dolch (for the NANOGrav Collaboration), J. A. Ellis, S. Chatterjee, J. M. Cordes, M. T. Lam, C. Bassa, B. Bhattacharyya, D. J. Champion, I. Cognard, K. Crowter, P. B. Demorest, J. W. T. Hessels, G. Janssen, F. A. Jenet, G. Jones, C. Jordan, R. Karuppusamy, M. Keith, V. I. Kondratiev, M. Kramer, P. Lazarus, T. J. W. Lazio, D. R. Lorimer, D. R. Madison, M. A. McLaughlin, N. Palliyaguru, D. Perrodin, S. M. Ransom, J. Roy, R. M. Shannon, R. Smits, I. H. Stairs, B. W. Stappers, D. R. Stinebring, K. Stovall, J. P. W. Verbiest and W. W. Zhu.....62

012015

OPEN ACCESS

[Gravitational wave science from space](#)

Jonathan R. Gair.....66

012016

OPEN ACCESS

[Computation of Schenberg response function by using finite element modelling](#)

C Frajula, F S Bortoli and N S Magalhaes.....74

012017

OPEN ACCESS

[Status of the cryogenic payload system for the KAGRA detector](#)

R Kumar, D Chen, A Hagiwara, T Kajita, T Miyamoto, T Suzuki, Y Sakakibara, H Tanaka, K Yamamoto and T Tomaru.....80

012018

OPEN ACCESS

[Measuring Gravitational-Wave Propagation Speed with Multimessenger Observations](#)

Atsushi Nishizawa and Takashi Nakamura.....84

012019

OPEN ACCESS

[How to overcome limitations of analytic solutions when determining the direction of a gravitational wave using experimental data: an example with the Schenberg detector](#)

C F S Costa and N S Magalhaes.....88

012020

OPEN ACCESS

[Measurement of Schumann Resonance at Kamioka](#)

S. Atsuta, T. Ogawa, S. Yamaguchi, K. Hayama, A. Araya, N. Kanda, O. Miyakawa, S. Miyoki, A. Nishizawa, K. Ono, Y. Saito, K. Somiya, T. Uchiyama, M. Uyeshima and K. Yano.....92

012021

OPEN ACCESS

[Neutron Star Mass Distribution in Binaries](#)

Chang-Hwan Lee and Young-Min Kim.....96

012022

OPEN ACCESS

[Active damping performance of the KAGRA seismic attenuation system prototype](#)

Yoshinori Fujii, Takanori Sekiguchi, Ryutaro Takahashi, Yoichi Aso, Mark Barton, Fabián Erasmo Peña Arellano, Ayaka Shoda, Tomotada Akutsu, Osamu Miyakawa, Masahiro Kamiizumi, Hideharu Ishizaki, Daisuke Tatsumi, Naoatsu Hirata, Kazuhiro Hayama, Koki Okutomi, Takahiro Miyamoto, Hideki Ishizuka, Riccardo DeSalvo and Raffaele Flaminio.....100

012023

OPEN ACCESS

[Thermal connection and vibrational isolation: an elegant solution for two problems](#)

C Frajua, F S Bortoli, N S Magalhaes and O D Aguiar.....104

012024

OPEN ACCESS

[Gravitational radiation from a particle in bound orbit around a black hole; relativistic correction](#)

Ashok Tiwari and Udayaraj Khanal.....108

012025

OPEN ACCESS

[Newtonian noise cancellation in tensor gravitational wave detector](#)

Ho Jung Paik and Jan Harms.....113

012026

OPEN ACCESS

[Determination of mass of an isolated neutron star using continuous gravitational waves with two frequency modes: an effect of a misalignment angle](#)

Kazunari Eda, Kenji Ono and Yousuke Itoh.....117

012027

OPEN ACCESS

[TorPeDO: A Low Frequency Gravitational Force Sensor](#)

D. J. McManus, M. J. Yap, R. L. Ward, D. A. Shaddock, D. E. McClelland and B. J. J. Slagmolen.....121

012028

OPEN ACCESS

[Augmented kludge waveforms and Gaussian process regression for EMRI data analysis](#)

Alvin J K Chua.....125

012029

OPEN ACCESS

[Construction of an optical test-bed for eLISA](#)

Maike Lieser, E Fitzsimons, K-S Isleif, C Killow, M Perreur-Lloyd, D Robertson, S Schuster, M Tröbs, S Veith, H Ward, G Heinzel and K Danzmann.....129

012030

OPEN ACCESS

[Length sensing and control for Einstein Telescope Low Frequency](#)

Vaishali Adya, Sean Leavey, Harald Lück, Christian Gräf and Stefan Hild.....133

012031

OPEN ACCESS

[Early Advanced LIGO binary neutron-star sky localization and parameter estimation](#)

C P L Berry, B Farr, W M Farr, C-J Haster, I Mandel, H Middleton, L P Singer, A L Urban, A Vecchio, S Vitale, K Cannon, P B Graff, C Hanna, S Mohapatra, C Pankow, L R Price, T Sidery and J Veitch.....137

012032

OPEN ACCESS

[Design study and prototype experiment of the KAGRA output mode-cleaner](#)

Kazushiro Yano, Ayaka Kumeta and Kentaro Somiya.....141

012033

OPEN ACCESS

Parameter estimation for compact binary inspirals with a simple noise realization

Jeongcho Kim, Chunglee Kim and Hyung Won Lee.....145

012034

OPEN ACCESS

The cryogenic challenge: status of the KAGRA project

Raffaele Flaminio on behalf of the KAGRA collaboration.....149