

ISSN: 2380-4327 Volume 3, Number 2, April 2017



# Journal of High Energy Physics, Gravitation and Cosmology



[www.scirp.org/journal/jhepgc](http://www.scirp.org/journal/jhepgc)

# Journal Editorial Board

ISSN 2380-4327 (Print) ISSN 2380-4335 (Online)

<http://www.scirp.org/journal/jhepgc>

---

## Editor-in-Chief

**Prof. Christian Corda**

Section of Physics of Santa Rita School of Advanced  
Academic Studies and Research, Italy

## Editorial Board

**Dr. Kazuharu Bamba**

Fukushima University, Japan

**Dr. Alexander Burinskii**

Laboratory of Theoretical Physics in Nuclear Safety Institute of the  
Russian Academy of Sciences, Russia

**Prof. Farhad Darabi**

Azərbaycan Şahid Mədanı University, Iran

**Dr. Luca Fabbri**

University of Bologna, Italy

**Dr. Seyed Hossein Hendi**

Shiraz University, Iran

**Arun Kenath**

Christ University, India

**Dr. Huda E. Khalid**

Mosul University, Iraq

**Dr. Lino Miramonti**

Università degli Studi di Milano, Italy

**Dr. Hooman Moradpour**

Research Institute for Astronomy and Astrophysics of Maragha  
(RIAAM), Iran

**Prof. Jorge Ovalle**

Simón Bolívar University, Venezuela

**Prof. Waldyr A. Rodrigues Jr.**

Institute of Mathematics, Statistics and Scientific Computation State  
University of Campinas (UNICAMP), Brazil

**Prof. Matteo Luca Ruggiero**

DISAT, Polytechnic University of Turin, Italy

**Dr. Burra Gautam Sidharth**

International Institute of Applicable Mathematics & Information  
Sciences B.M. Birla Science Centre, India

**Dr. Anirvan Sircar**

Intel Corporation, USA

**Dr. Lorenzo Zaninetti**

Department of Physics, Italy

# Table of Contents

**Volume 3    Number 2**

**April 2017**

## **Burst Astrophysics**

V. S. Netchitailo.....157

## **Creating a (Quantum?) Constraint, in Pre Planckian Space-Time Early Universe via the Einstein Cosmological Constant in a One to One and Onto Comparison between Two Action Integrals**

A. W. Beckwith.....167

## **On Possibility of Geometrical Interpretation of Time**

O. A. Olkhov.....173

## **Axiomatic Affine Unification with Large Gravitational Vector Field Yields Vector-Metric Theory of Gravitation, Electromagnetism and Field Description of Mass-Particles**

B. Hikin.....178

## **Precise Ideal Value of the Universal Gravitational Constant G**

A. E. K. S. Abou Layla.....248

## **Methodology of Wavelets in Relativistic Heavy Ion Collisions in One Dimensional Phase Space ( $\eta$ -Space)**

V. V. Lyashenko, M. A. Ahmad, Z. V. Deineko, M. H. Rasool.....254

## **Quantum Neutron Unit Gravity**

D. Chakeres, V. Andrianarijaona.....267

## **The Universe as a Graviton Condensate: The “Dark-Bright Conjecture”**

A. Sigal.....277

## **Extra Dimensions, Brane Worlds, and the Vanishing of Axion Contributions to Inflation**

A. W. Beckwith.....285

## **Lowest Order Mass of KK Graviton Revisited and How It May Affect the Blue Spectrum for Gravitons**

A. W. Beckwith.....296

## **Modeling GW Generation at Start of the Electro Weak Regime and Its Tie into the Machian Universe with Falsifiable $h_{ij}$ Values**

A. W. Beckwith.....308

**Constraints, in Pre-Planckian Space-Time via Padmabhan's  $\Lambda_{\text{initial}} \cdot H_{\text{initial}}^{-2} \approx o(1)$   
Approximation Leading to Initial Inflaton Constraints and Its Relation to  
Early Universe Graviton Production**

A. W. Beckwith.....322

**Symmetry in Equations of Motion between the Atomic and Astronomical Models**

A. E. K. S. Abou Layla.....328

**The Ring Produced by an Extra-Galactic Superbubble in Flat Cosmology**

L. Zaninetti.....339

**Gedanken Experiment for Initial Expansion of the Universe and Effects of a Nearly Zero  
Inflaton in Pre-Planckian Physics Space-Time Satisfying Traditional Slow Roll Formulas  
Which Happens in Pre-Planckian Regimes Even If  $\phi^2 \gg V_{\text{SUSY}}$**

A. W. Beckwith.....360

**On the Cohomological Derivation of Yang-Mills Theory in the Antifield Formalism**

A. Danehkar.....368

**Analyzing If a Graviton Gas Acts Like a Cosmological Vacuum State  
and “Cosmological” Constant Parameter**

A. W. Beckwith.....388

# Journal of High Energy Physics, Gravitation and Cosmology (JHEPGC)

## Journal Information

### SUBSCRIPTIONS

The *Journal of High Energy Physics, Gravitation and Cosmology* (Online at Scientific Research Publishing, [www.SciRP.org](http://www.SciRP.org)) is published quarterly by Scientific Research Publishing, Inc., USA.

#### Subscription rates:

Print: \$39 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: [sub@scirp.org](mailto:sub@scirp.org)

### SERVICES

#### Advertisements

Advertisement Sales Department, E-mail: [service@scirp.org](mailto:service@scirp.org)

#### Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: [sub@scirp.org](mailto:sub@scirp.org)

### COPYRIGHT

#### Copyright and reuse rights for the front matter of the journal:

Copyright © 2017 by Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

#### Copyright for individual papers of the journal:

Copyright © 2017 by author(s) and Scientific Research Publishing Inc.

#### Reuse rights for individual papers:

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

#### Disclaimer of liability

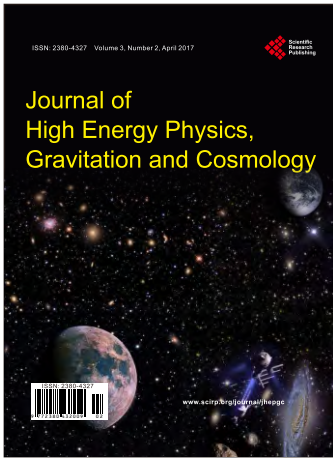
Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

### PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:

E-mail: [jhepgc@scirp.org](mailto:jhepgc@scirp.org)





## Journal of High Energy Physics, Gravitation and Cosmology

ISSN Print: 2380-4327 ISSN Online: 2380-4335  
<http://www.scirp.org/journal/jhepgc>

Journal of High Energy Physics, Gravitation and Cosmology (JHEPGC) is a cutting edge research periodical aimed to be forward looking and innovative and, at the same time, remaining in the mainstream. In other words, we are all in favor of being open minded about alternatives to mainstream, but they must be properly formulated and plausible scientific proposals, supported by mathematical rigor. In fact, being open mind in Science is a good thing and we encourage mainstream as well as avant-garde research papers but they must be grounded in real science and of course meet with our refereeing standards.

The need for such a journal has become more than apparent when recent cosmological observation and measurement has made it clear that new discoveries (particularly the discovery of Dark Energy), the accelerated cosmic expansion and gravitational waves have shaken the very foundation of High Energy Physics, Gravitation and Cosmology. Thus we, on the one hand, need to be truly open minded, i.e. in the sense clarified above. On the other hand, we have to adhere as much as possible to our time tested theories and be guided even more than before by observations and experiments.

The Journal is intended to fulfill this double edge philosophy religiously. It goes without saying that the refereeing of submitted papers will be also both rigorous and swift. Following what we have said, the Journal will predictably cover, but will not be restricted only to, the following subjects:

### Subject Coverage

- Accelerated Cosmic Expansion
- Advances in Mathematical Methods
- Astronomy and Astrophysics
- Black Holes
- Cosmic Quantum Entanglement
- Cosmic-Ray Physics
- Dark Energy
- Dark Matter
- Dimensional Regularization
- Extended Theories of Gravity
- Fractal Models of Space Time
- Gravitational Waves
- K-Theory
- Loop Quantum Gravity
- M-Theory
- N-Category Theory Applied to Physics and Cosmology
- Non-Commutative Geometry
- Non-Demolition Quantum Measurement
- Observational Techniques
- Phenomenological Oriented Theories of Particles and Field String Theories
- Quantum Field Theories in Curved Space Time
- Quantum Teleportation
- Renormalization
- Scale Relativity
- Theoretical and Experimental High Energy Physics
- Topological Defects
- Unification of Fundamental Interactions
- Varying Speed of Light

### Website and E-Mail

<http://www.scirp.org/journal/jhepgc> E-mail: [jhepgc@scirp.org](mailto:jhepgc@scirp.org)

## ***What is SCIRP?***

Scientific Research Publishing (SCIRP) is one of the largest Open Access journal publishers. It is currently publishing more than 200 open access, online, peer-reviewed journals covering a wide range of academic disciplines. SCIRP serves the worldwide academic communities and contributes to the progress and application of science with its publication.

## ***What is Open Access?***

All original research papers published by SCIRP are made freely and permanently accessible online immediately upon publication. To be able to provide open access journals, SCIRP defrays operation costs from authors and subscription charges only for its printed version. Open access publishing allows an immediate, worldwide, barrier-free, open access to the full text of research papers, which is in the best interests of the scientific community.

- High visibility for maximum global exposure with open access publishing model
- Rigorous peer review of research papers
- Prompt faster publication with less cost
- Guaranteed targeted, multidisciplinary audience

Back Cover



**Scientific  
Research  
Publishing**

**Website: <http://www.scirp.org>**

**Subscription: [sub@scirp.org](mailto:sub@scirp.org)**

**Advertisement: [service@scirp.org](mailto:service@scirp.org)**