**What will be brought up in November, 2008 as a guest of the Chongquing Physics department**

# Dr. Andrew Beckwith

**google the following**

**http://www.vixra.org/author/Andrew_Beckwith**

# 1st topic- quantum versus semi classical physics nature of early cosmology

- ***Entropy growth in the early universe, and the search for determining if gravity is classical or quantum - Foundations***
- **(Is gravity a classical or quantum phenomenon at its genesis 13.7 billion years ago?)**
- **The talk will be a PPT taken from my presentation at ICANAAM, 2009, in Rethymo, Crete, Greece September 2009: see**

# 1st topic- ctd

- http://www.vixra.org/abs/0909.0044
- **Entropy, GW, and the Question of the Degree of Classical Physics Contribution to Early GW Waves**
- **Authors: Andrew Beckwith**

- **A first order presentation of the questions the author believes must be addressed for fufilling the promise of GW astronomy in terms of understanding the origins of our universe. Organized in five questions , and themes which end with asking if quantum foundations / structures to our cosmological space time are mandantory, or if T'Hoofts vision of quantum physics being a sub set to a larger 'deterministic quantum theory; as t;Hooft phrases the successor to quantum probability, as envisions it .**

- **Comments: A companion piece to http://vixra.org/abs/0909.0042 of the Numerical analysis and applied mathematics special symposium organized by Christian Corda, in Rethymno, Crete, 18-22 September 2009**

# 2nd topic **Entropy growth in the early universe , DM models , with a nod to the lithium problem**

- Presented in the 12 Marcel Grossman meeting, Paris, July 17th, 2009
- **Title of PPT is what is listed above, 10 pages**
- **File is : Chongquing 6**
- Congruent with:

# 3rd topic - Entropy, Neutrino Physics, and the Lithium Problem: Why Are There Stars with Essentially no Lithium Due to Serious Lithium deficiency in Certain Spatial Regions in the Early Universe?

- **3 page pdf of conference proceeding of 31st Erice Nuclear physics school, Sept 2009**
- **See :** http://www.vixra.org/pdf/0910.0030v2.pdf
- The above will be presented,

# 3rd topic - **Entropy, Neutrino Physics, and the Lithium Problem: Why Are There Stars with Essentially no Lithium Due to Serious Lithium deficiency in Certain Spatial Regions in the Early Universe?**

# - Contd.

- For power point talk given in Erice, with PPT changed to PDF: read this on own
- http://www.vixra.org/abs/0909.0043

# 2nd and 3rd topic combined : read on own. Will not be presented

- Down load from Vixra.org
- http://www.vixra.org/abs/0910.0052
- **Entropy Growth in the Universe, Dark Matter Models, with a Nod to the Lithium Problem**
- **Authors:** Andrew Beckwith
- In the 12th Marcel Grossmann Meeting, July 17, 2009, the author raised the issue of whether early graviton production could affect non-Gaussian contributions to DM density profiles. Non gaussianity of evolving cosmological states is akin to asking if there is a way to get quantum contributions due to squeezed initial vacuum states which act highly non classically.

# 4th topic . Commonality of String versus Loop Quantum Gravity cosmology?

- See short 2 page presentation as given by
- http://www.vixra.org/abs/0910.0028

# 4th topic, contd.

- **Finding Minimum Spatial Uncertainty Requirements for Space Time Which Can Distinguish Between LQG, and Brane World Scenarios. Applications of Euclidian Snyder Geometry to the Foundations of Space Time Physics**
- **Authors:** Andrew Beckwith

- This thought experiment supposition will be raised in the ACGRG5, in Christchurch, New Zealand, December 2009, as a way to start investigations as to being able to choose either LQG, or string theory, as an initial space time template for emergent gravity .

- The author was exposed to Batisti's talk as of the 12 Marcel Grossman conference, and intends to explore the applications of deformed Euclidian space to questions as of the role of either string theory and/or LQG as to what degree the fundamental constants of nature are preserved between different cosmological cycles

# 5th topic: **Derivation of commonality of DM and DE ? Can they explain resumption of acceleration 1 billion years ago ?**

- Go to the discussion about PDF
- ***Entropy growth in the early universe, and the search for determining if gravity is classical or quantum – Foundations***

- ***See figures 4a and 4b, and derivation about both in the 33 page PDF***

- ***http://www.vixra.org/abs/0910.0057***

# 5th topic , continued

- See figures 4a and 4b  and equation build up from
- **Entropy Growth in the Early Universe, and the Search for Determining if Gravity is Classical or Quantum Foundations (is Gravity a Classical or Quantum Phenomenon at Its Genesis 13.7 Billion Years Ago?)**
- **Authors:** Andrew Beckwith
- In the 12th Marcel Grossmann Meeting, July 9th, 2009, the author raised the issue of whether early graviton production could affect non-Gaussian contributions to DM density profiles. Non gaussianity of evolving cosmological states is akin to asking if there is a way to get quantum contributions due to squeezed initial vacuum states which act highly non classically. If particle counting algorithms in graviton production is important as for entropy, and if entropy perturbations affects the density profile of dark matter clumping profiles, then there is room to ask to what degree initial perturbations affecting structure formation are due to classical/ non linear processes, or more quantum theoretic states