



ALTERNATIVE COSMOLOGY  
GROUP

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## The Alternative Cosmology Group Newsletter - July 2009

The ACG newsletter is distributed gratis to subscribers. Get onto our mailing list without obligation at [www.cosmology.info/newsletter](http://www.cosmology.info/newsletter). The current newsletter is a review of 1053 papers published under astro-ph on arXiv for the month of June, 2009. If you would like to suggest papers for inclusion, please send the arXiv reference and a brief exposition to Hilton Ratcliffe ([hilton@hiltonratcliffe.com](mailto:hilton@hiltonratcliffe.com)).

This newsletter has always followed the protocol of using arXiv as the standard reference set for currently published results in astrophysics and related fields. There is little choice in the matter. Unfortunately, due to restrictive censorship by the administrators of arXiv (the faceless, nameless, and apparently speechless “moderators”), our analysis is being skewed. The number of authors being blacklisted by arXiv is rising alarmingly, and combined with their practice of relegating papers to inappropriate (and seldom referenced) categories, has brought about an unhealthy imbalance in representative viewpoints. The reality is that there are in fact many more discordant or anomalous results being presented than we find on arXiv. This is not scientific best practice. Physicist Phil Gibbs has recently launched an alternative online science archive called viXra, and it can be found at <http://vixra.org/>. It will succeed only to the degree that it is supported by the science community. We shall be watching it closely while we continue to struggle with arXiv. Thank you Oliver Manuel for bringing viXra to our attention.

We missed a paper in the May newsletter because it had been shifted to gen-ph. It is ***Comments on "The Euclidean gravitational action as black hole entropy, singularities, and spacetime voids" by C. Castro*** by Abhas Mitra (arXiv:0904.4754). It shows that Black Holes have a unique gravitational mass  $M = 0$ , thus ruling out BH candidates with  $M > 0$ .

Eric Lerner’s paper on the Tolman test was unilaterally moved by arXiv administrators from astro-ph to gen-ph, although it clearly belongs in the former category.

**Title: Tolman Test from  $z = 0.1$  to  $z = 5.5$ : Preliminary results challenge the expanding universe model**

Authors: [Eric J. Lerner arXiv:0906.4284](http://arxiv.org/abs/0906.4284)

## **Black Holes**

The notion of Black Holes is intrinsically part of the theoretical excess underpinning the LCDM model. The president of the Royal Astronomical Society, Andrew Fabian, addressed the society on the functioning of objects he unequivocally labels as Black Holes—**How Black Holes Work** (<http://arxiv.org/abs/0906.2119> ). Are astrophysicists like Dr Fabian being over-zealous in the assumption of Black Holes as the source of galaxian mass energy? He states, “*Massive black holes are ubiquitous, occurring at the centres of all massive galaxies and possibly many low mass ones. They are no ornament which just happens to be there, but play a role vital to the growth and structure of the host galaxy. How they do this has come to be known as cosmic feedback and how it works, indeed how black holes work, is the subject of this paper.*”

Following several discoveries in recent times of natural compact objects where previously Black Holes were thought to be located, attention has turned to defining Black Holes in real terms, and seeing if there is any example of a match in observation, or indeed, whether natural objects could fit the bill. For example, the discovery of TeV scale gammas from radio galaxy hotspots renders redundant the invocation of Black Holes as the source. All radiation signatures attributed to Black Holes emanate from energetic, compact baryonic systems, and by definition, not from within the event horizons of postulated BHs.

[9] **Title: Origin of the X-rays and Possible GeV-TeV Emission from the Western Hot Spot Of Pictor A**

Authors: [Jin Zhang, J. M. Bai, Liang Chen, Xian Yang arXiv:0906.0055](#)

[13] **Title: TeV neutrinos from accreting X-ray pulsars**

Authors: [Wlodek Bednarek arXiv:0906.0084](#)

Ilya Royzen raises arguments from Quantum Chromodynamics and thermodynamics against the arbitrarily catastrophic compression of matter in the formation of Black Holes.

[1010] **Title: QCD against black holes?**

Authors: [Ilya I. Royzen arXiv:0906.1929](#)

The Natural Philosophy Alliance recently hosted an online conference centred on a presentation by Australian mathematical physicist Stephen Crothers. In it, he challenges the theoretical basis for ascribing Black Hole status to observed gravitating, radiant, natural objects.

<http://www.worldnpa.org/php2/index.php?tab0=More&tab1=Media&tab2=Display&id=180>

## **MOND**

The originator of MOND, Prof Mordehai Milgrom, has found the possibility of MOND-type effects within the Solar System which may help to explain anomalous accelerations.

[844] **Title: MOND effects in the inner solar system**

Authors: [Mordehai Milgrom](#) [arXiv:0906.4817](#)

The mass-to-light ratio of galaxies is usually raised in support of Dark Matter, where a high mass-to-light is the key. This study shows that applying MOND to galaxy data significantly reduces the value.

[15] **Title: MOND mass-to-light ratio for the COMA cluster**

Authors: [J.C. Fabris](#), [H.E.S. Velten](#) [arXiv:0906.0109](#)

A conventional analysis of mass-to-light ratios produces anomalies that are simply attributed to Dark Matter halos.

[40] **Title: Spiral galaxies with non-typical mass-to-light ratios**

Authors: [A.S. Saburova](#), [E.S. Shaldenkova](#), [A.V. Zasov](#) [arXiv:0906.0284](#)

## **CMBR**

The inherent complexity and intricacy of deriving meaning from the microwave background is well illustrated by this latest study by Lieu and Jiang.

[37] **Title: The nature of intrinsic fluctuations in cosmic diffuse radiation**

Authors: [Richard Lieu](#), [Bizhu Jiang](#) [arXiv:0906.0236](#)

Extraordinary measures are needed to tease out meaning from the MB image, and here we have an example, appropriately titled *MADmap*.

[297] **Title: MADmap: A Massively Parallel Maximum-Likelihood Cosmic Microwave Background Map-Maker**

Authors: [C.M. Cantalupo](#), [J.D. Borrill](#), [A.H. Jaffe](#), [T.S. Kisner](#), [R. Stompor](#) [arXiv:0906.1775](#)

The continuous stream of anomalous results from WMAP data is invariably treated in one of two ways: Either it is ignored, or the theoretical basis of the prediction is revised to give the desired effect, thereby changing it from prediction to arbitrary parameter.

*“We present measurements of the clustering of hot and cold patches in the microwave background sky as measured from the Wilkinson Microwave Anisotropy Probe (WMAP) five-year data. These measurements are compared with theoretical predictions which assume that the cosmological signal obeys Gaussian statistics. We find significant differences from the simplest Gaussian-based prediction.”*

[365] **Title: Non-Gaussian Distribution and Clustering of Hot and Cold Pixels in the WMAP Five-Year Sky**

Authors: [Graziano Rossi](#), [Ravi K. Sheth](#), [Changbom Park](#), [Carlos Hernandez-Montegudo](#) [arXiv:0906.2190](#)

When those two methods fail, the fallback position is unobserved metaphysical effects. *“We argue that cosmic strings or correlated gravitational waves could lead to the observed effect.”*

[866] **Title: Non-Gaussianity of the distribution tails in CMB**

Authors: [Vitaly Vanchurin](#), [Alexey Golovnev](#) [arXiv:0906.4954](#)

## **Supernovae**

The misallocation of certain classes of astrophysical objects as standard candles has had a negative effect on the development of cosmological theory, and seriously skewed the cosmological distance ladder. Objects assumed to be a single class were subsequently found to be actually divided into two or more classes of object with different optical properties and intrinsic brightness. It was seen with Cepheid variable stars, long considered to be a single class of reliable standard candles, and also in recent times with type Ia SNe.

[329] **Title: A new type of stellar explosion**

Authors: [H. B. Perets](#), et al. [arXiv:0906.2003](#)

## **Cosmological Principle**

Hubble-type expansion depends critically upon the Cosmological Principle of isotropy and homogeneity at large scales. The anisotropy of GRBs is further observational falsification of the principle.

[678] **Title: Anisotropy in the sky distributions of the short and intermediate gamma-ray bursts: Breakdown of the cosmological principle?**

Authors: [A. Mészáros](#), [L.G. Balázs](#), [Z. Bagoly](#), [P. Veres](#) [arXiv:0906.4034](#)

## **The Standard Model**

It is often difficult to ascertain the exact specification of the LCDMM, so we would suggest the paper by Matthias Bartelmann entitled *The Dark Universe* as a useful summary. It is fairly lengthy at 51 pages, but well worth the read.

[888] **Title: The Dark Universe**

Authors: [Matthias Bartelmann](#) [arXiv:0906.5036](#)

## **Title of the Month**

There were several dazzling titles this month, but none beats this one by Nelson and Sakellariadou. A close runner-up was “*Is it possible to see the infinite future of the Universe when falling into a black hole?*” by A Grib & Yu. Pavlov.

[976] **Title: Lattice Refining Loop Quantum Cosmology from an Isotropic Embedding of Anisotropic**

**Cosmology** Authors: [William Nelson](#), [Mairi Sakellariadou](#) [arXiv:0906.0292](#)