



ALTERNATIVE COSMOLOGY GROUP

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The Alternative Cosmology Group Newsletter - December 2009

The ACG newsletter is distributed gratis to subscribers. Get onto our mailing list without obligation at www.cosmology.info/newsletter. The current newsletter is a review of 1054 papers published on arXiv under astro-ph, together with 576 under gen-phys, for the month of November, 2009. We now include papers archived elsewhere, provided access is full and open. The Alternative Cosmology Group draws its mandate from the open letter published in *New Scientist*, 2004 (www.cosmologystatement.org), and this newsletter seeks to publicise recently published empirical results that are aligned with that ethos. If you would like to suggest recently published or archived papers for inclusion, please send the arXiv, viXra or other direct reference and a brief exposition to Hilton Ratcliffe (hilton@hiltonratcliffe.com). Note that our spam filter rejects slash and colon in the text, so please write web addresses commencing "www".

My face is red! In last month's editorial, I declared, "*Some of us noted with a measure of despondency that string theorist Dr Brian Greene has filled the Lucasian Chair of Mathematics vacated at Cambridge University by retiring Professor Stephen Hawking.*" Of course, it's not Brian Greene at all who fills that hallowed chair. Thanks are due to Kris Krogh, who pointed out, "*The person taking Hawking's position at Cambridge is not Brian Greene (author of The Elegant Universe) but Michael Green (co-author of a very influential 1988 textbook, Superstring Theory, written with Schwarz and Witten). Not surprisingly, the two are often confused. I'm not defending either of these people, or their ideas.*" Thanks for setting me straight, Kris.

We received the following email from Sotira Trifourki:

"I am writing to make an enquiry into whether the Alternative Cosmology Group are considering holding any future meetings or conferences. I am currently acting as director of the Cyprus Science Festival in Cyprus, which is due to take place over a five week period next year and as part of the outreach activities a meeting is being organised as a conference on space and astronomy in Europe. I would like to offer the festival as an opportunity for members of the alternative cosmology group to attend and have an alternative cosmology conference in its own right, if nothing is planned for 2010.

"Kind Regards, Sotira Trifourki" sotira.t@googlemail.com

Overlooked

It seems we overlooked two important contributions listed on viXra in September. José Juliá gave a novel explanation for redshift by relating the Compton Effect to the age of stars, and Marvin Herndon expanded on his theory of nuclear fission-driven generation of geomagnetic fields.

[12] [viXra:0909.0061](#)

Cosmological Redshift, Compton Effect and Age of the Stars

Authors: [José Francisco García Juliá](#)

“Understanding the nature of matter comprising the solar system is crucial for understanding the mechanism that generates the earth's geomagnetic field and magnetic fields of other planets and satellites. The commonality of matter in the solar system like that inside of earth, together with common nuclear reactor operating conditions, form the basis for generalizing the author's concept of nuclear georeactor geomagnetic field generation to planetary magnetic field generation by natural planetocentric nuclear fission reactors.”

[10] [viXra:0909.0037](#)

Nature of Planetary Matter and Magnetic Field Generation in the Solar System

Authors: [J. Marvin Herndon](#)

Distance ladder

One of the most daunting yet pressing challenges to be overcome in cosmology is establishing remoteness in space and time. At extragalactic scales, standard methods falter into great uncertainty, and in the absence of independent checks, important benchmarks used in building the cosmological big picture are notoriously unreliable. Canadian mathematician Bruce Rout has devised an independent, novel means of estimating distance based on the spiral morphology of galaxies. Although they are yet to be tested by peer review (formal or informal) his conclusions nevertheless challenging for the Hubble Law and universal expansion models, and may spark robust debate. *“To date, methods of direct measurement of the distance to galaxies have been limited in their range. This paper makes direct measurements of distant galaxies by comparing spiral arm structures to the expected locus of gravitational influence along the geodesic in a centripetally accelerating reference frame. Such measurements provide a method of independent validation of the extragalactic distance ladder without presupposition of the uniformly expanding universe theory. The methodology of this paper avoids the use of Hubble's constant in the measurement of the distance to galaxies beyond the range of contemporary direct measurement methods. The measurements are validated by meaningful trends between distance and other variables such as mass, rotational velocity, size and angular momentum to validate the measurements made. A Hubble diagram calculated using this method is presented from data obtained from 111 spiral galaxies in the southern hemisphere to about 200 Mpc distance. The galactic red shift from these galaxies appears independent to distance. Galactic structure, size, masses and angular momentum are seen to have a distinct relationship to the spin velocity, or tangential velocity, associated with each galaxy.”*

[82] [viXra:0911.0023](#)

Distance, Rotational Velocities, Red Shift, Mass, Length and Angular Momentum of 111 Spiral Galaxies in the Southern Hemisphere

Authors: [Bruce Rout](#)

“The measurement of relative extragalactic distances has become fairly routine, but estimates of absolute distances are rare. In the vicinity of the Sun, direct geometric techniques for obtaining absolute distances, such as orbital parallax, are feasible, but heretofore such techniques have been difficult to apply to other galaxies. As a result, uncertainties in the expansion rate and age of the Universe are dominated by uncertainties in the absolute calibration of the extragalactic distance ladder. Here we compare previous distance measurements to the galaxy NGC 4258 from both an estimate of Hubble’s constant and a direct measurement of orbital motions in a disk of gas surrounding the nucleus of this galaxy to a direct measurement using a model of constant rotational velocity and galactic spiral morphology. The results of the comparison help validate methods of direct measurement of spiral galaxies to much greater distances.”

[76] [viXra:0911.0016](#)

A Comparison of Distance Measurements to NGC 4258

Authors: [Bruce Rout](#)

Gravitation

“We present a novel solution of the Mercury perihelion advance shift in the new gravity model. It is found that the non-relativistic reduction of the Dirac equation with the gravitational potential produces the new gravitational potential... This potential can explain the Mercury perihelion advance shift without any free parameters. Also, it can give rise to the ω -shift of the GPS satellite... “

[156] gen-phys [arXiv:0911.2086](#)

Title: Novel Solution of Mercury Perihelion Shift

Authors: [Takehisa Fujita](#), [Naohiro Kanda](#)

Evolution

Along with the distance ladder, the “ageing ladder” constitutes a major challenge to astrophysicists. The two are linked in the LCDM model, where redshift is linked to lookback time, which may be misleading. This paper by Martín López-Corredoira gives ageing results for galaxies with high redshift.

[655] [arXiv:0911.3825](#)

Title: Intrinsic colors and ages of extremely red elliptical galaxies at high redshift

Authors: [Martin Lopez-Corredoira](#)

We haven't heard from Jack Sulentic for some time, and welcome this historical view of galaxies that are peculiar in that they appear to unbound to any clustered system, and therefore provide a unique window on galaxy properties uncontaminated by neighbours.

[943] [arXiv:0911.5663](https://arxiv.org/abs/0911.5663)

Title: Forty Years of Research on Isolated Galaxies

Authors: [J. W. Sulentic](#)

GRBs, Black Holes, and consensus

Bing Zhang has produced a summary of Standard Model principles that clearly illustrates the circularity of redshift-based astrophysics. The results are synthetically coloured by assumptions from the model.

[29] [arXiv:0911.0202](https://arxiv.org/abs/0911.0202)

Title: Astrophysics: Most distant cosmic blast seen

Authors: [Bing Zhang](#)

Dark Matter/Electromagnetism/MOND

“To fully understand the present position concerning so-called dark matter, it is necessary to examine the historical background since, only by following this approach, do all the pieces of the puzzle fall into place. Here an attempt is made to do this briefly and it is found that an interesting and important question is raised. This question relates to the position of electromagnetism in astronomical considerations since history indicates that, in the years following the beginning of the 20th century, interest in electromagnetic effects appeared to wane. Hence, following an examination of the history and the presently accepted position where reliance for solutions seems confined to examining gravitational effects, attention is turned to hypotheses based on plasma physics to see if a more feasible solution to the problem of the missing mass can be furnished utilising its fundamental ideas. While the purpose here is to concentrate on dark matter and the supposed need for its introduction into physics, this consideration of electromagnetic effects combined with the realisation that most matter in the Universe is in the form of plasma also indicates alternative routes to seeking solutions for other puzzling astronomical phenomena.”

[308] [arXiv:0911.4187](https://arxiv.org/abs/0911.4187)

Title: Does Physics Need 'Dark Matter'?

Authors: [Jeremy Dunning-Davies](#)

Glenn Starkman, who had two papers presented at CCC1, has in his recent publications shown an increasing scepticism of the Standard Model. He has openly declared that he finds evidence that the CMBR is non-cosmological, and now joins other eminent investigators in the field (including George Ellis and Richard Lieu) in being critical of the implementation of dark fields in cosmology.

“The observed matter in the universe accounts for just 5 percent of the observed gravity. A possible explanation is that Newton's and Einstein's theories of gravity fail where gravity is either weak or enhanced. The modified theory of Newtonian dynamics (MOND) reproduces, without dark matter, spiral-galaxy orbital motions and the relation between luminosity and rotation in galaxies, although not in clusters. Recent extensions of Einstein's theory are theoretically more complete. They inevitably include dark fields that seed structure growth, and they may explain recent weak lensing data. However, the presence of dark fields reduces calculability and comes at the expense of the original MOND premise -- that the matter we see is the sole source of gravity. Observational tests of the relic radiation, weak lensing, and the growth of structure may distinguish modified gravity from dark matter.”

[224] [arXiv:0911.1212](https://arxiv.org/abs/0911.1212)

Title: Einstein's Theory of Gravity and the Problem of Missing Mass

Authors: [Pedro G. Ferreira](#) and [Glenn Starkmann](#)

“We compare the observations to the theoretical predictions using a Kolmogorov-Smirnov test, which is appropriate for small samples. We find that, with the currently available data, the MOND prediction for the velocity distribution can only be excluded with a very low confidence level, clearly insufficient to claim that MOND is falsified.”

[751] [arXiv:0911.4485](https://arxiv.org/abs/0911.4485)

Title: Current data on the globular cluster Palomar 14 are not inconsistent with MOND

Authors: [Gianfranco Gentile](#), [Benoit Famaey](#), [Garry W. Angus](#), [Pavel Kroupa](#)

Quasars

“It is shown here that a periodicity of $\Delta(z) \sim 0.6$ is imprinted on the redshift-number distribution by this selection effect. Because this effect cannot be rigorously corrected for, astronomers need to be aware of it in any investigation that uses the SDSS $N(z)$ distribution. Its presence also means that the SDSS quasar data cannot be used either to confirm or to rule out the $\Delta(z) \sim 0.6$ redshift period reported previously in other, unrelated quasar data.”

955] [arXiv:0911.5700](https://arxiv.org/abs/0911.5700)

Title: Selection Effects in the SDSS Quasar Sample: The Filter Gap Footprint

Authors: [M.B. Bell](#), [S.P. Comeau](#)

Method

“We prove that the linearized version of GR cannot actually give any frame-dragging effect a la Lense-Thirring. Accordingly, the recent experimental results, which affirm the physical existence of such effect, must be explained otherwise.”

[122]gen-phys [arXiv:0911.1498](https://arxiv.org/abs/0911.1498)

Title: On the Lense-Thirring effect

Authors: [A. Loinger](#), [T. Marsico](#)

Title of the Month

A contradiction in terms?

[284] [arXiv:0911.1639](https://arxiv.org/abs/0911.1639)

Title: Black Hole Outflows

Authors: [A.R. King](#)