



Monthly Notes of the Alternative Cosmology Group – August 2010

The ACG Webmaster who distributes this newsletter to subscribers would prefer not to receive related correspondence.

Please address all correspondence to MNACG Editor, Hilton Ratcliffe: mnacg_editor@cosmology.info.

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 1000 papers published on arXiv under astro-ph, together with 615 under gen-phys, for the month of July, 2010. 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 these monthly notes seek to publicise recently published empirical results that are aligned with that ethos. In other words, what observations seem anomalous in terms of the Standard Model of Cosmology? We prefer observational results and tend to avoid complete cosmologies and purely theoretical work. Discussion of method is welcome. 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".

I. arXiv

The stringent rules now applied for arXiv candidate papers are impacting ever more seriously on the listing of papers by new authors or on topics that are even slightly off-centre. There is a definite "old boys' club" emerging in the arXiv hierarchy, and this is reinforced by the requirement that any submission be endorsed by approved endorsers *in the specific category in which the paper is to be archived*. Where would an author gain access to such endorsers? At the suggestion of Chuck Gallo, We would like to appeal to those of you who are approved endorsers to let us have your names, contact details, and categories in which are permitted to endorse. We will display these in a list, and authors trying to get onto arXiv can make direct requests for endorsement to the relevant persons. If you are willing to participate, please send your details to the editor.

II. The Colonisation of Astronomy

The following paper outlines an alarming state of affairs in Italian astronomy, and it is by no means peculiar to that country, rich as it is in astronomical heritage. The historic Jodrell Bank radio telescope (part of the VLBA) was recently on the brink of being decommissioned because of a shortfall of just \$200,000 in maintenance funding, and yet at the same time, \$13 billion was sunk into the Large Hadron Collider which has yet to produce any useful result and which continues to be a gargantuan dollar-sink. The global trends in space science in the era of Big Bang Theory have rung alarm bells that few appear to heed. Cosmology has reinvented itself, from a philosophical branch of harder sciences like observational astronomy and astrophysics, to the parent discipline that determines how those formerly hard sciences should be taught and practiced. Mathematically-oriented methods have achieved dominance at the cost of empirically-based physical science, and the shocking reality is that *modern cosmology can be practiced almost entirely without a telescope*. This writer believes the dearth of any fundamental physical discoveries in the last half century or so is a direct consequence of the tendency to eschew observation and experiment in favour of eternally inconclusive meta-mathematical debate.

1. Title: A decline and fall in the future of Italian Astronomy?

Authors: [Angelo Antonelli](#) et al (100 authors)

[arXiv:1007.1455](#)

Quote: "On May 27th 2010, the Italian astronomical community learned with concern that the National Institute for Astrophysics (INAF) was going to be suppressed, and that its employees were going to be transferred to the National Research Council (CNR). It was not clear if this applied to all employees (i.e. also to researchers hired on short-term contracts), and how this was going to happen in practice. In this letter, we give a brief historical overview of INAF and present a short chronicle of the few eventful days that followed. Starting from this example, we then comment on the current situation and prospects of astronomical research in Italy."

III. Redshift

1. Title: Redshift and the Rotating Gravitational Field

Authors: [Walter James Christensen Jr](#)

[arXiv:1007.4595](#)

Quote: "Analyzing this energy equation at the microscopic level, where energies are assumed to become discrete, it is found a photon of frequency ν_0 traversing through a rotating gravitational field (having frequency ν_g) becomes coupled to the field and redshifted by the amount $\nu' = \nu_0 - r (\nu_0 \nu_g)^{1/2}$."

IV. Plasma Cosmology

1. Title: Microwave Radiation from a Particle Revolving Along a Shifted Equatorial Orbit About a Dielectric Ball

Authors: [L.Sh. Grigoryan](#), [H.F. Khachatryan](#), [S.R. Arzumanyan](#), [M.L. Grigoryan](#)

[arXiv:1007.2776](#)

Quote: "A relativistic electron uniformly rotating along a shifted equatorial orbit about a dielectric ball may generate microwave Cherenkov radiation tens of times more intense as that generated at the revolution in a continuous, infinite and transparent medium."

2. **Title: A Theory about Electric Current and Heating in Plasma**

Authors: [Zhiliang Yang](#)

[arXiv:1007.4959](#)

Quote: “The traditional generalized Ohm's law in MHD does not explicitly present the relation of electric currents and electric fields in fully ionized plasma, and lead to some unexpected concepts, such as ‘the magnetic frozen-in plasma’, magnetic reconnection etc. In the present paper, we solve the balance equation can give exact solution of the velocities of electrons and ions, and then derived the electric current in fully ionized plasma. In the case ignoring boundary condition, there is no electric current in the plane perpendicular to the magnetic field when external forces are ignored. The electric field in the plane perpendicular to magnetic field do not contribute to the electric currents, so do the induced electric field from the motion of the plasma across magnetic field. The lack of induced electric current will keep magnetic field in space unaffected. The velocity of the bulk velocity of the plasma perpendicular to magnetic field is not free, it is decided by electromagnetic field and the external forces. We conclude that the bulk velocity of the fully ionized plasma is not coupled with the magnetic field. The motion of the plasma does not change the magnetic field in space, but the plasma will be confined by magnetic field. Due to the confinement of magnetic field, the plasma kinetic energy will be transformed into plasma thermal energy by the Lamor motion and collisions between the same species of particles inside plasma. Because the electric field perpendicular to magnetic field do not contribute electric current, the variation of magnetic field will transfer energy directly into the plasma thermal energy by induced electric field. The heating of plasma could be from the kinetic energy and the variation of magnetic field.”

3. **Title: Self Consistent Models of the Solar Wind**

Authors: [Steven R. Cranmer](#)

[arXiv:1007.0954](#)

Quote: “The origins of the hot solar corona and the supersonically expanding solar wind are still the subject of much debate. This paper summarizes some of the essential ingredients of realistic and self-consistent models of solar wind acceleration. It also outlines the major issues in the recent debate over what physical processes dominate the mass, momentum, and energy balance in the accelerating wind. A key obstacle in the way of producing realistic simulations of the Sun-Heliosphere system is the lack of a physically motivated way of specifying the coronal heating rate. Recent models that assume the energy comes from Alfvén waves that are partially reflected, and then dissipated by magnetohydrodynamic turbulence, have been found to reproduce many of the observed features of the solar wind. This paper discusses results from these models, including detailed comparisons with measured plasma properties as a function of solar wind speed. Some suggestions are also given for future work that could answer the many remaining questions about coronal heating and solar wind acceleration.”

4. **Title: A chromospheric conundrum?**

Authors: [Philip Judge](#), [Michael Knoelker](#), [Wolfgang Schmidt](#), [Oskar Steiner](#)

[arXiv:1007.1203](#)

V. **Dark Matter**

1. **Title: Where are the missing baryons in clusters?**

Authors: [Bilhuda Rasheed](#), [Neta Bahcall](#), [Paul Bode](#)

[arXiv:1007.1980](#)

Quote: “Observations of clusters of galaxies suggest that they contain significantly fewer baryons (gas plus stars) than the cosmic baryon fraction. This ‘missing baryon’ puzzle is especially surprising for the most massive clusters which are expected to be representative of the cosmic matter content of the universe (baryons and dark matter). Here we show that the baryons may not actually be missing from clusters, but rather are extended to larger radii than typically observed...[.]...We find that the baryon fraction reaches the cosmic value near the virial radius for all groups and clusters above 5×10^{13} solar masses. This suggests that the baryons are not missing, they are simply located in cluster outskirts. Heating processes (shock-heating of the intracluster gas, plus supernovae and AGN feedback) that cause the gas to expand are likely explanations for these results. Upcoming observations should be able to detect these baryons.”

1. **Title: Rotating thin-disk galaxies through the eyes of Newton**

Authors: James Q. Feng, C. F. Gallo

arXiv:1007.3778

Quote: *“By numerically solving the mass distribution in a rotating disk based on Newton's laws of motion and gravitation, we demonstrate that the observed flat rotation curves for most spiral galaxies correspond to exponentially decreasing mass density from galactic center for the most of the part except within the central core and near periphery edge. Hence, we believe the galaxies described with our model are consistent with that seen through the eyes of Newton. Although Newton's laws and Kepler's laws seem to yield the same results when they are applied to the planets in the solar system, they are shown to lead to quite different results when describing the stellar dynamics in disk galaxies. This is because that Keplerian dynamics may be equivalent to Newtonian dynamics for only special circumstances, but not generally for all the cases. Thus, the conclusions drawn from calculations based on Keplerian dynamics are often likely to be erroneous when used to describe rotating disk galaxies.”*

VI. Method

The first paper here makes an important (theoretical) challenge to the Tully-Fisher Relation, which is based upon a direct correlation between cluster galaxies' mass and spin, whereas in Dark Matter halo models it can be shown as varying with redshift. The paper does not appear to suggest any useful predictions, and may be no more than a further illustration of what can be achieved by determined theorists employing plastic parameters.

1. **Title: The Redshift Evolution of LCDM Halo Parameters: Concentration, Spin, and Shape**

Authors: J. C. Muñoz-Cuartas , A. V. Macciò , S. Gottlöber , A. A. Dutton

arXiv:1007.0438

Quote: *“Within the studied redshift range the relation between halo shape and mass can be well fitted by a power law. Finally we show that although for $z=0$ the spin parameter is practically mass independent, at increasing redshift it shows an increasing correlation with mass. This correlation could have important consequences for the understanding of galaxy formation at intermediate and high redshifts.”*

2. **Title: On the Invariance of the Velocity of Light**

Authors: Bertrand Wong

viXra:1007.0051

Quote: *“The Special Theory of Relativity postulates that the velocity of light would always be invariant at 186,000 miles per second at all inertial frames. The paper examines this aspect of the Theory.”*

3. **Title: Special Theory of Relativity in Absolute Space and the Symmetric Twin Paradox (on the Possibility of Absolute Motion)**

Authors: Golden Gadzirayi Nyambuya, Mabledle Donald Ngobeni

viXra:1007.0043

Quote: *“In an effort to try and resolve the symmetric twin paradox, we set-forth a relativistic aether model, which at best can be described as the Special Theory of Relativity in Absolute Space. By recalibrating several experiments performed by other researchers in the past, we find that the Earth's speed through the aether is in the range $240 \pm 80 \text{ km s}^{-1}$.”*

4. **Title: Verification of Cepheid Variable Distance Measurements Using Roxy's Ruler**

Authors: Bruce Rout

[viXra:1007.0024](#)

Quote: "We present here a statistical analysis of distance variations for 21 galaxies between Cepheid variables and Roxy's Ruler. The analysis shows there is no systemic error in Measurements to galaxies using Cepheid variables and that such measurements are valid within well defined degrees of error."

VII. Titles of the month

Here, ladies and gentlemen, we present the **BS-model!**

1. Title: Where is everybody? -- Wait a moment ... New approach to the Fermi paradox

Authors: [I. Bezsudnov](#), [A. Snarskii](#)

[arXiv:1007.2774](#)

Quote: "We introduce bonus stimulation model (**BS-model**) of development in cellular space (Universe) of objects (Civilizations)."

2. Title: Geometrical joke(r?)s for SETI

Authors: [R.T. Faizullin](#)

[arXiv:1007.4054](#)

3. Title: Do Cell Phones Cause Cancer?

Authors: [Bernard Leikind](#)

[arXiv:1007.4192](#)

Quote: "Do cell phones, household electrical power wiring or appliance, or high voltage power lines cause cancer? **Fuggedaboutit! No way! When pigs fly! When I'm the Pope! Don't text while you're driving, however, or eat your cell phone.**"