

Editorial

Open Access

Welcome to PMC Physics A

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Published: 2 October 2007

Received: 6 September 2007

PMC Physics A 2007, 1:1 doi:10.1186/1754-0410-1-1

Accepted: 2 October 2007

This article is available from: <http://www.physmathcentral.com/1754-0410/1/1>

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Welcome to the first issue of *PhysMath Central (PMC) Physics A*, a new peer-reviewed international Open Access journal covering particle and nuclear physics, cosmology, gravity & astroparticle physics, instrumentation and data analysis.

Why do we need a new journal? There are three key reasons why I think this is necessary.

First, the past twenty or thirty years have seen a significant change in the way in which the subject areas covered by *PMC Physics A* have evolved. Particle physics and cosmology are closely related through the Big Bang, and the emergence of astroparticle physics as a separate sub-discipline has interest for particle physicists and astronomers alike. Similarly, nuclear physics also connects with both particle physics (for example, through the quark-gluon plasma) and astronomy (for example, through the equation of state of dense nuclear material in stars under extreme conditions). Finally, all of these sub-disciplines rely upon very advanced technologies for their progress.

Second, the internet has revolutionized the way we share information. The world-wide web allows for the dissemination of knowledge on a wider and far more interactive scale than was possible with the print medium. What we now need to consider is how this new, and potentially disruptive, technology affects academic publishing. As well as providing access to the latest results and hot topics, we also need to consider the longer-term issues – ensuring the quality, integrity and long-term preservation for posterity of the information and allowing continuing access to it.

Third, the open access movement in scientific publishing allows anyone in the world to find and read peer-reviewed, scientific articles, and to use their contents in the course of scholarship, teaching and personal inquiry. The movement has received support throughout the scientific

community, because it frees access to knowledge and, as a result, should accelerate the pace of discovery while at the same time lowering the barriers to knowledge.

What do we mean by 'open access'? Each of these three points is – in our view – essential for an article to be termed open access:

1 – The article is universally and freely accessible via the internet without subscription barriers.

2 – The article is deposited and permanently archived in a number of national and subject repositories.

3 – The authors retain copyright of their articles and license the article under a Creative Commons license whereby they grant any third party the right to use the article freely, as long as its integrity is maintained and its original authors, citation details and publisher are identified.

PMC Physics A is a response to these developments. The challenge is to create viable publishing model that preserves the best of the academic publishing traditions while allowing the power of the internet to be harnessed for the public good. The parent publishing group, BioMed Central, has quickly established itself over the past seven years in the bio-medical field with a large number of open access journals. Also, because *PMC Physics A* does not have a background in printed journals, it should be easier to accommodate new kinds of information – dynamic links to databases, multimedia "figures" – in articles. In fact, we are already able to accommodate many different kinds of supporting information, such as audio, video, pdfs, databases or even interactive programs.

Like all academic publishers, we are completely dependent upon the Editorial Board and the many individual researchers who referee the papers submitted, and I am grateful to them for the care and efficiency with which they carry out these duties.

Finally, in the course of correspondence with one member of the Editorial Board, I tried to define the essential features of what we are trying to achieve as "academic publishing with the minimum of fuss and the maximum of integrity". Submitting, refereeing and reading articles should be made as easy as possible, using the power of the internet to the full. I hope that you find *PMC Physics A* essential reading in the future.

Ken Peach

Editor-In-Chief, *PMC Physics A*