

Open Access Issues in Physics Journals

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I introduce some of Open Access activities in Physics journals.

1. arXiv, INSPIRE, SCOAP3

Open Access activities in Physics area have a long history and culture. The standard of judgement of physics papers is based on whether they give new knowledges or informations on human or not. We developed open access databases like arXiv and INSPIRE in 1991 at the beginning of WWW technology. High energy physics (HEP) has been a front runner of open data and open articles. SCOAP3 is a challenging program to serve OA services for top existing HEP journals not only to readers but also to the authors; most of the authors are poor theoretical physicists. Redirection of budget flow from subscription to SCOAP3 scheme is proposed. SCOAP3 started and challenge to establish a long term sustainable model.

2. Public Access activities

Physics communities have delivered charge-free access to the journal database of societies via public libraries and high school libraries since early 90's. All physics papers are open to the people in US when they visit these libraries. Researchers and teachers of developing countries have a charge-free-access to the physics papers through International Center of Theoretical Physics (ICTP). Most of physical societies and publishing companies join the ICTP OA library. ICTP developed a lot of research support and educational programs under a support of UNESCO.

3. Charge-free Reading vs Charge-free Publishing

There are intense discussions on Gold-OA, which means charge-free reading journal. In 1997, the first Gold-OA journals such as Optics Express (OSA) and New Journal of Physics (IOP) were published. In 2003, Optics Express reached breakeven point. Today OSA published more than 50% articles in Gold-OA journals with top IF in Optics. These Gold-OA journals demonstrated a sustainable model which satisfies high quality, article volume, and financial condition, altogether. Such a success was achieved by extraordinary efforts of editors group toward the new generation academic journals by online publishing techniques. APS developed Gold-OA Physical Review X for the real top journal under a different scope and vision. We understand Gold-OA is not a single issue, there are many variations in their scope and functions.

APS journals (Physical Review A-E, Physical Review Letters, etc) published more than 60% articles in Physics with high quality. The publication cost in APS journals is relatively low because authors send their manuscripts in REVTeX format. APS returned the benefit of electronic publication to the authors. The author-fee for Physical Review is zero when they send the manuscript in a manner of electronically acceptable format. The increase of subscriptions from Chinese institutions by WTO scheme contributed to their financial balance significantly.

How to share the scientific information with a reasonable cost, this is a main topics of OA movement today. However, we have to remind that the final target of information sharing is stimulation and activation of scientific activities. Physics communities have paid significant attention to the benefit of authors and readers in equal weight.

4. Try and Error, this is our principle.

Physics communities have made big efforts to improve the publication and access to the scientific informations last 20 years. Fortunately, Gold-OA journals in physics keep high quality by the effort of top societies like APS, IOP and OSA. The financial gain of Gold-OA is directly connected to the acceptance volume. This is an internal mechanism of Gold-OA. We need additional feedback mechanism to keep the scientific quality independently to the rejection rate. We have no rigid model for OA publishing and economical sustainability even now. It depends on the real situation of research and educational condition. Every academic community and every country have to develop their own model according to their requirement, scope and decision.

Keywords: Open Access Journals, IUPAP WG, Gold OA, Public Access, Subscription Model, Author fee