

# Open Access and High Energy Physics: a synergy

A central circular image showing a complex, multi-colored (purple, blue, red, orange) particle detector visualization, likely a calorimeter or tracking detector, with many lines radiating from a central point, set against a green background with geometric shapes.

Michel Spiro  
IN2P3/CNRS

CERN - March 14<sup>th</sup> 2007

# Open Access definition

(from Budapest Open Access Initiative)

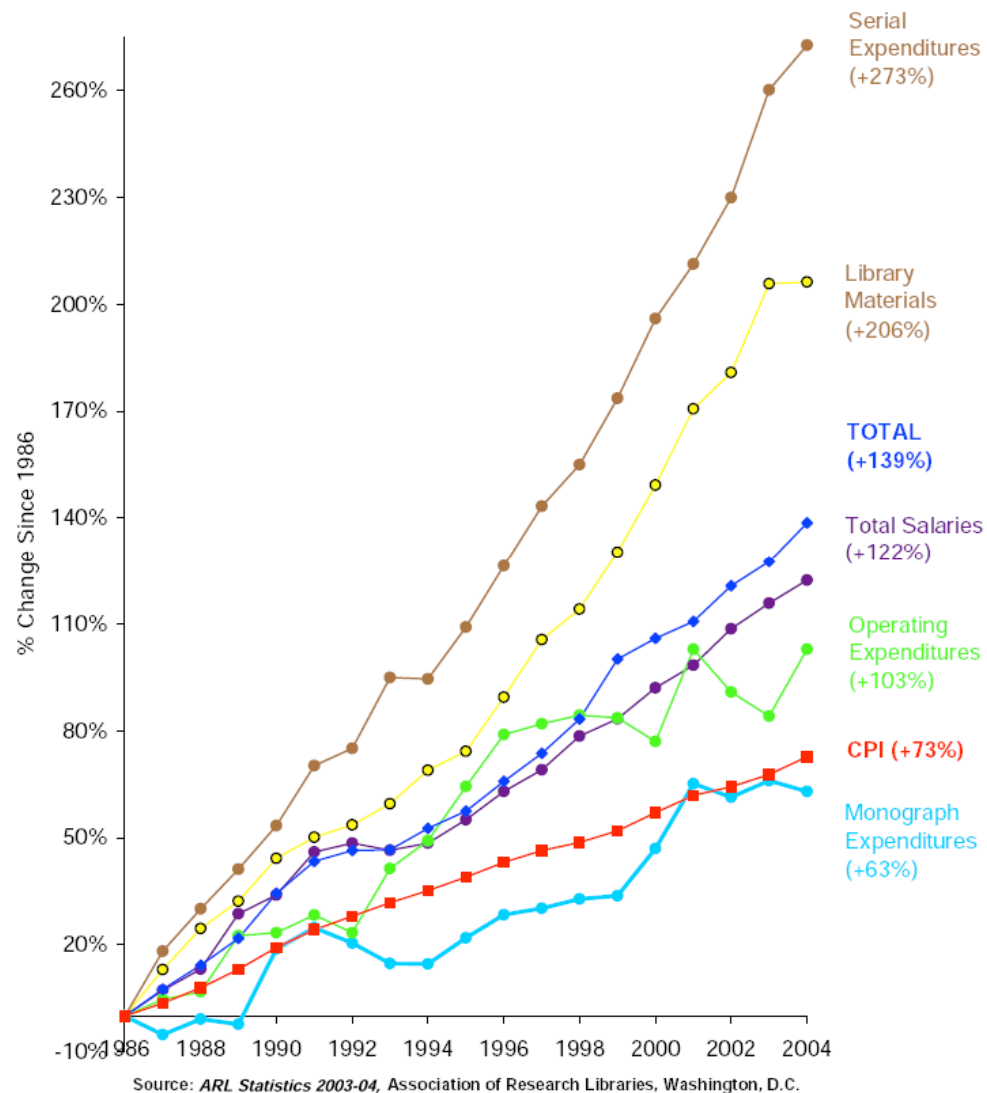
“...free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright [...] should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited.”

# HEP has it already: the preprints!

- Preprints are not peer reviewed!
- Not every author makes preprints available (in some disciplines less than 10% do)
- Published versions may (and often do) differ from preprints
- Not every author makes these final version available and Journal versions are not Open Access
- Evaluation of institutes and researchers needs high-quality peer-reviewed journals (a process with large inertia: difficult to change)
- Even if 100% of publications were available as preprints we would still have to purchase journals!

# A century-old model showing cracks?

- Journal subscription prices have soared above any indicator
- The more libraries cancel subscriptions, the more these prices grow (*serial crisis*)
- Some libraries “cannot” cancel subscriptions
- Some journals are thought to earn **16,000\$**/article (Rubinstein)
- Some learned societies estimate copyediting and online-publishing costs at **1,000-1,500€**/article



# Open Access - An opportunity. A moral and an economical issue

- Grant universal free access to the peer-reviewed results of scientific research
- Bring subscription spiraling costs under control
- Raise researcher awareness of economical implications of scientific publishing
- Introduce competition in the market of scientific publishing and therefore reduce prices
- SCOAP partners should recover their contribution from cancellation of journal subscriptions

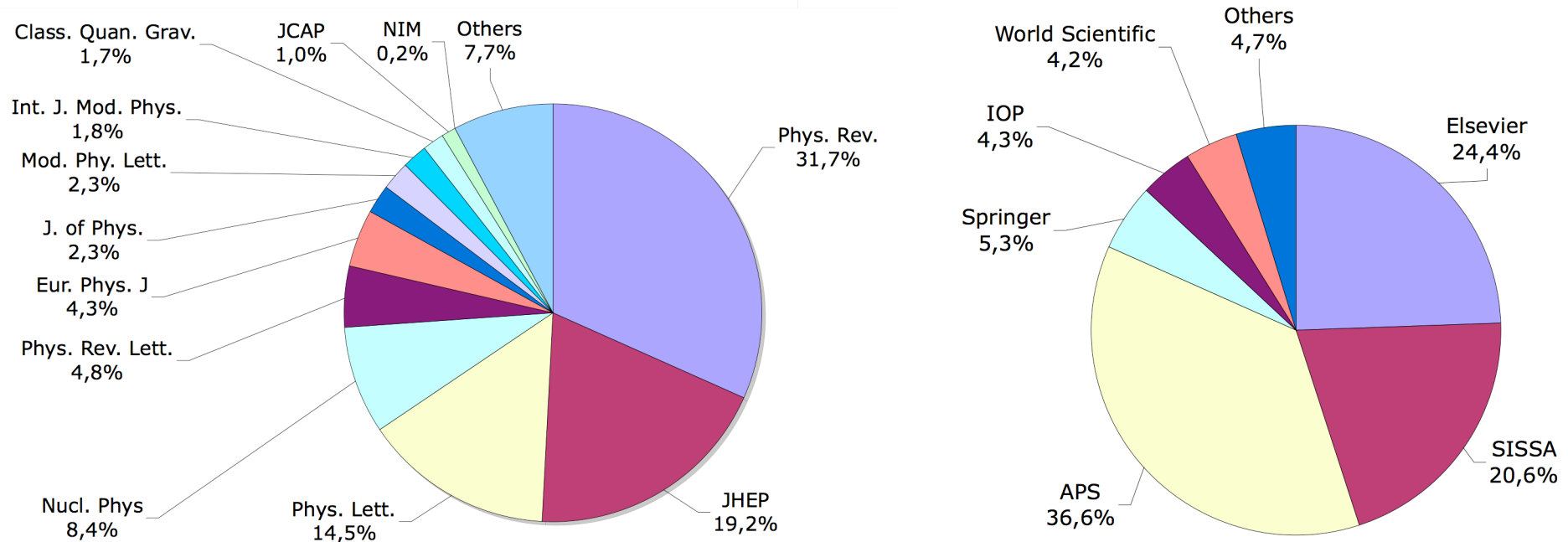
# So why HEP?

- High Energy Physics is decades ahead in thinking Open Access (arXiv preprint server)
- Closely knit community with long-established tradition of cross-border collaboration
- Relatively small global scientific output (5000-8000 articles, according to definitions)
- Small publishing landscape: about 10 main journals
- The publishing system is unstable with few journals and stretched libraries

# The HEP publishing landscape

S. Mele et al. [JHEP 12\(2006\)S01](#)  
arXiv:cs.DL/0611130

5016 articles submitted to arXiv:hep in 2005 and published in peer-reviewed journals



**90% of articles on theoretical physics, with few authors**  
**83% of articles published in 6 leading journals**  
**87% of articles published by four publishers**

# Why now?

- Time is ripe for Open Access in HEP scientific publishing
- Harness world-wide Open Access momentum
- Seize the opportunity of the first experimental and theoretical LHC articles to “turn page”
- Control subscription prices which continue to increase (library consortia only relatively succeeded)
- Leverage on the increasing HEP “market share” of the not-for-profit (but not-for-loss) publishers
- HEP is decades ahead in OA to preprints and there is nothing to wait before moving to OA journals