

APS Perspective on Improving the Review of Particle Physics

Prepared by Mark Doyle

Director, Journal Information Systems, APS

PDG Collaboration Meeting, CERN, Oct. 6, 2012

Thanks

APS and *Physical Review D* are pleased to have the opportunity to share some thoughts with the Particle Data Group. We regret not being able to attend in person.

Main Point

- Ensure that PDG is the definitive source of all information and minimize the need for a publisher or other downstream user to convert (manually or automatically) to new formats while providing a richer, more interlinked experience for RPP readers

Areas for Improvement

- Capturing PDG author and affiliation information
- Capturing bibliographic references in the RPP
- Linking from the RPP back to PDG web site
- Making the RPP available in a richer way beyond PDF

Authors and Affiliations

- Special one-off program needed to convert RPP authors and affiliations to XML format used for our online abstract/wrapper page
 - Enables searching of authors and institutions
- Large collaborations send us a standardized XML file (developed by APS, INSPIRE, and arXiv)
 - See http://www.slac.stanford.edu/spires/hepnames/authors_xml/
- ORCID identifiers (ORCID launching next week) for all authors should be used in future editions

Bibliographic Information

- Give credit where credit is due
- Too difficult to extract references from PDG's RPP files and convert them to XML
- Result: No online links to referenced papers, no links from cited papers to RPP (in publisher system or in CrossRef)
- Solution: Supply unified bibliography in a standard format (XML preferably) with author names, journals, titles, DOIs, etc. marked up

Linking to PDG

- Applies to both RPP and any other HEP article
- There is no unified semantic markup for a particle, reaction, decay mode, branching ratio, etc. that can be used to create a link directly to the latest information on the PDG web site (highly non-trivial though)
- PDG's internal identifiers are difficult to use
- URLs for specific items aren't easily constructible

Moving Beyond PDF

- Creating a mobile, non-PDF version of the RPP requires PDG to work closely with publisher (or other third party) to create the necessary files
 - Publisher conversion of PDG TeX source or PDF to ePub or some other XML source introduces too many opportunities for conversion errors for such an important reference work. PDG needs to be able to export their information in a variety of formats so that you can maintain the high-degree of quality control required
- High quality math still difficult
- There are other experimental TeX-based solutions though that may be of benefit

More Discussions

- Annual AAHEP Information Provider summits have been a great forum for discussing these issues in the past.
- Next one is at CERN in mid-November. Hope to see some of the PDG folks there

Questions or Follow Up

- Please do contact me:
 - Mark Doyle, doyle@aps.org