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HEPData - a repository for high energy physics data exploration

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The Durham High Energy Physics Database (HEPData) has been built up over the past four decades as a unique open-access repository for scattering data from experimental particle physics. It is comprised of data points from plots and tables underlying over eight thousand publications, some of which are from the Large Hadron Collider (LHC) at CERN.

HEPData has been rewritten from the ground up in the Python programming language and is now based on the Invenio 3 framework. The software is open source with the current site available at http://hepdata.net with: 1) a more stream-lined submission system; 2) advanced submission reviewing functionalities; 3) powerful full repository search; 4) an interactive data plotting library; 5) an attractive, easy to use interface; and 6) a new data driven visual exploration tool.

Here we will report on our efforts to bring findable, accessible, interoperable, and reusable (FAIR) principles to high energy physics.

Our presentation will cover the background of HEPData, limitations of the current tool, and why we created the new system using Invenio 3. We will present our system by considering four important aspects of the work: 1) the submission process; 2) making the data discoverable; 3) making data first class citable objects; and 4) making data interoperable and reusable.

Tertiary Keyword (Optional)

Visualization

Primary Keyword (Mandatory)

Databases

Secondary Keyword (Optional)

Preservation of analysis and data

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