

Ensuring continued operation of INSPIRE as a cornerstone of the HEP information infrastructure

not yet on the arXiv: Sabine Crépé-Renaudin, Alexander Kohls, Micha Moskovic, Heath O'Connell, Kirsten Sachs, Jian Yu



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The INSPIRE Collaboration

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CLUSTER OF EXCELLENCE
QUANTUM UNIVERSE

via ICFA Instrumentation, Innovation and Development Panel



IUPAP Commission 11 Support Letter input to EPPSU

Jürgen R. Reuter



Some Facts & Statistics

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- INSPIRE has entries for all papers in HEP, astrophysics, statistics, nuclear physics, and neighboring fields
- Primary source of HEP researches seeking accurate scholarly information; incl. collections of thesis, talks ...
- 25,000 daily visits (42% from Europe)
- Interconnections to HEP/Astro databases: arXiv, ORCID, ADS, HEPData, CDS, PDG,
- Provides the most accurate metadata information and citations counts (WoS, Google Scholar have 20-30% errors!)
- Collaboration: **SLAC + DESY (1974)**, CERN, Fermilab (early 2000s), Fermilab, IHEP, CNRS/IN2P3: 15 FTEs

B. Hecker: [Four decades of Open Science, Nature Phys.](#)



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- Backend; frontend; databases; **CURATION (!)**; API developments, conferences, job offers, etc. etc.
- 2021 SLAC dropped out; 2024 DESY reduction to absolute minimum
- 2021: small service reduction; 2024: covered by external support

Leibniz Information Centre for Science & Technology (TIB), Max Planck Digital Library (MPDL)

Interests from STFC and INFN (not yet formalized)



Benefits, plans, & needs

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- 🌐 INSPIRE started (+will intensify) storage and cataloguing of metadata from HEP data samples (OpenData etc. demands)
- 🌐 Replace staff needs by automation and LLMs (would need more staff, strong competitiveness with industry)
- 🌐 Future plans: metadata and storage of research software in HEP and related fields (as modern KPI for research)

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In conclusion, INSPIRE plays a unique and major role for the global HEP research community that is expected to persist for the foreseeable future. It has exciting projects to develop its services that will benefit each researchers in the HEP community. As a consequence, the required funding to continuously sustain and develop the INSPIRE service should be secured through the commitment of the large laboratories, i.e., CERN and other major European HEP institutions, in partnership with other relevant institutions globally.⁷

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⁷This need for funding has been recognized by the US HEP community. The [2023 P5 report](#) mentions "Area Recommendation 18: Increase targeted investments that ensure sustained support for key cyberinfrastructure components by \$8M per year in 2023 dollars. This includes widely-used software packages, simulation tools, information resources such as the Particle Data Group and INSPIRE, as well as the shared infrastructure for preservation, dissemination, and analysis of the unique data collected by various experiments and surveys in order to realize their full scientific impact."