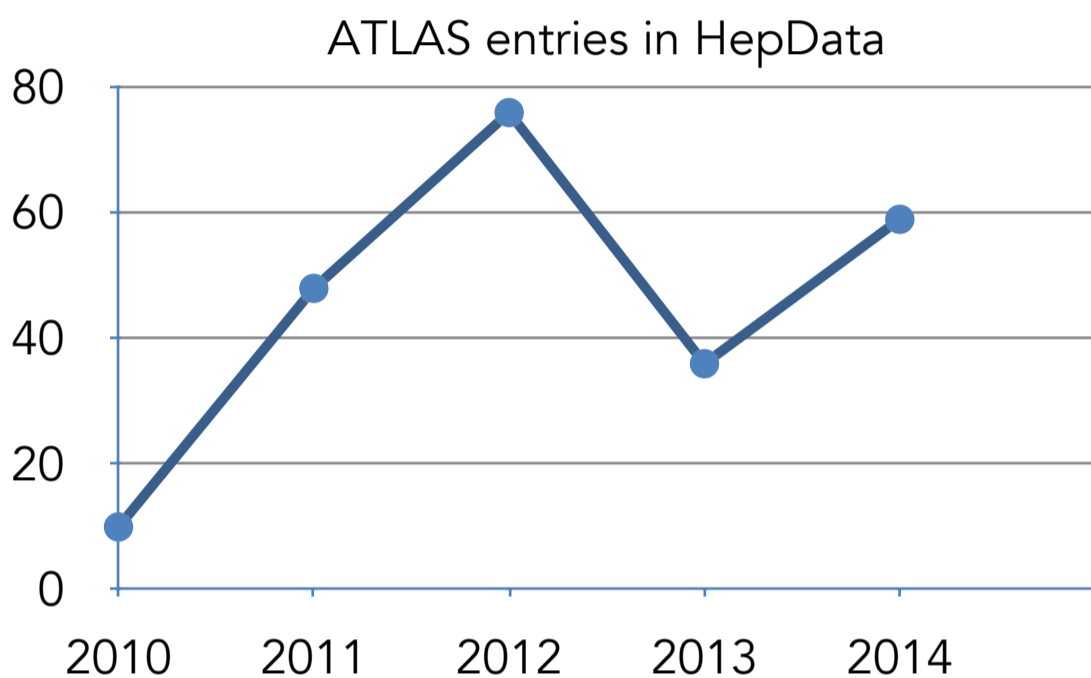


Analysis Preservation in ATLAS

ATLAS Data Access Policy

Data associated with journal publications are made available: tables and data from plots



“ATLAS has fully supported the principle of open access in its publication policy.”

ATLAS also strives to make additional material related to the paper available to allow for a reinterpretation of the data in the context of new theoretical models. For example:

- Information on signal acceptances of searches is also entered in [HepData](#) to allow reinterpretation of these searches in a limited context
- Simplified, portable and self-contained formats for educational and public understanding purposes
- [RIVET](#) for encapsulation of unfolded measurements
- ATLAS is also exploring how to provide the capability for reinterpretation of searches in the future via a service such as [RECAST](#). RECAST allows theorists to evaluate the sensitivity of a published analysis to a new model they have developed by submitting their model to ATLAS.

link to policy document: <http://bitly.com/ZTvcWi>

Scope and Purpose

Reproducibility

Replicability

“**Reproducibility**” is defined as repeating the analysis of the same data using the original procedures, software and tools.

- **Primary Technology:** virtualization, containerization
- **Timescale:** short/medium term
- **Use case:** confirmation & clarification if questions arise, reinterpretation of existing result for new physics model

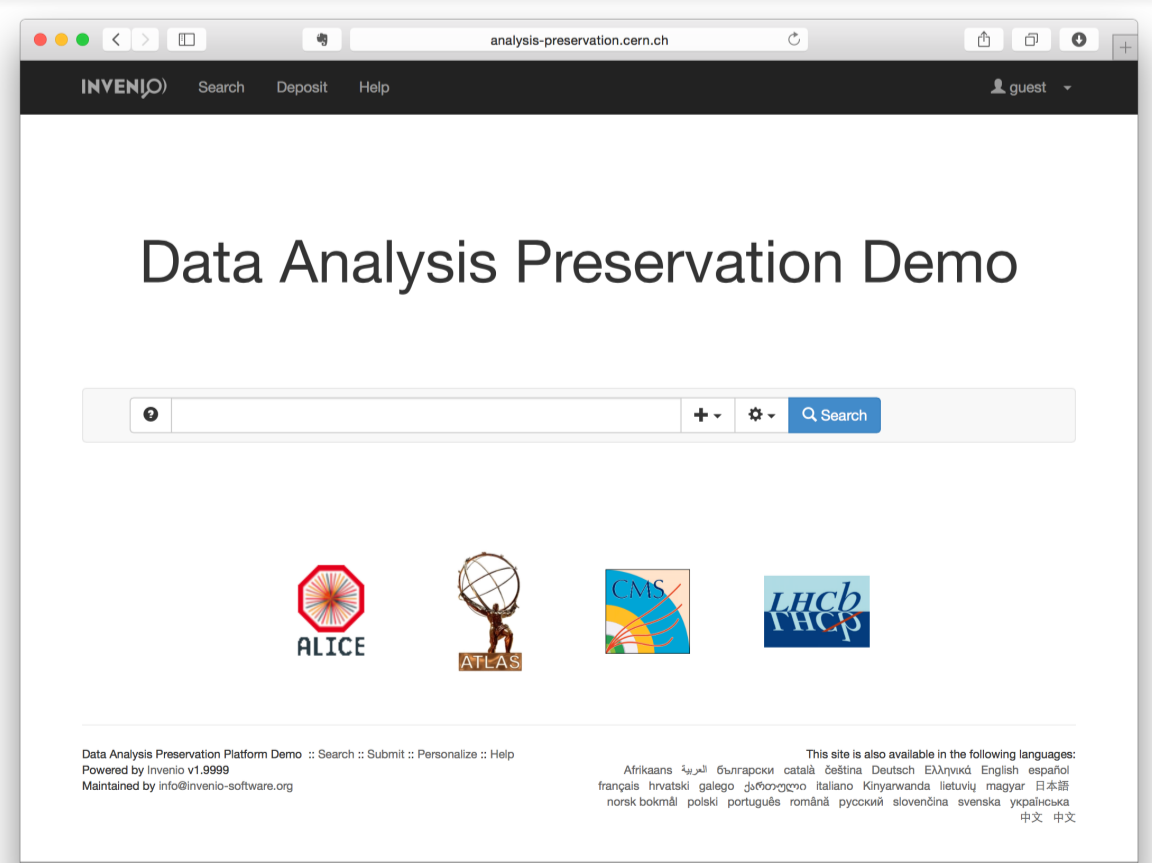
“**Replicability**” is defined as repeating the analysis of new data or new versions of old data (e.g. after a reprocessing), potentially with newer versions of software and tools.

- **Primary Technology:** migration, regression testing
- **Timescale:** medium/long term
- **Use case:** extend analysis with new data, facilitate migration to new groups or similar signatures
(this approach overlaps with our DPHEP efforts)

An Eye On The Future

ATLAS is now reviewing the concept of analysis preservation with the aim to bring coherence and robustness to the process and with a clearer view of the level of reproducibility that is reasonably achievable.

- ATLAS is working with **CERN-IT** and [DPHEP](#) to develop a tool to **capture** provenance, derived data, and analysis code at various levels
- ATLAS members of [DASPOS](#) are exploring generic tools (CDE, PTU, parrot, [docker](#), [LXC](#), etc.) to automatically capture provenance & computing environment that can be preserved & distributed
- ATLAS is prototyping and evaluating a **RECAST** backend that leverages the preserved analysis to provide a service for reinterpretation



<http://data-demo.cern.ch/>