

JuliaHEP 2023 Workshop



Contribution ID: 21

Type: **not specified**

Is Julia ready to be adopted by HEP?

Monday 6 November 2023 14:00 (30 minutes)

The Julia programming language was created 10 years ago and is now a mature and stable language with a large ecosystem including more than 80,000 third-party packages. It was designed for scientific programming to be a high-level and dynamic language as Python is, while achieving runtime performances comparable to C/C++ or even faster. With this, we ask ourselves if the Julia language and its ecosystem is ready now for its adoption by the High Energy Physics community. We will report on a number of investigations and studies of the Julia language that have been done for various representative HEP applications, ranging from computing intensive initial data processing of experimental data and simulation, to final interactive data analysis and plotting. Aspects of collaborative code development of large software within a HEP experiment has also been investigated: scalability with large development teams, continuous integration and code test, code reuse, language interoperability to enable a adiabatic migration of packages and tools, software installation and distribution, training of the community, benefit from development from industry and academia from other fields.

Presenter: GAL, Tamas (University of Erlangen / Erlangen Centre for Astroparticle Physics)