Contribution ID: **7**   Type: **Talk**

Julia: Sustainability and Efficiency

Wednesday 7 May 2025 11:20 (30 minutes)

There a number of studies of the general energy efficiency of different programming languages, however relatively few look at HEP specific examples. Here we present examples comparing energy efficiency of different jet reconstruction codes in different languages: specifically C++, Julia and Python. We also study the evolution of efficiency over recent releases of Julia and Python.

We also discuss general aspects of sustainability of code and show how the Julia language and ecosystem helps developers to write and maintain modular, interoperable codes that reduce the code maintenance burden.

We show that Julia is an excellent language choice, combining outstanding energy efficiency and human productivity, helping sustainability in all the most meaningful senses.

Requested talk length

30

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