AIDAInnova Contribution
UNIMAN

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Outline

- EDM4HEP
- Gaudi Functional Framework porting
- Conclusion

Underlying Software

Adaptation for experiment independent use

The Event Data Model (EDM)

- Lamarr is, by design, incorporated within Gauss, allowing for direct communication with generators via Gaudi
- It is unfortunately also tied to the LHCb EDM
- Work to remove the EDM from Gaussino now started: Gaussino!111
- Goal: use EDM4Hep MC EDM as transient structure
  - Lamarr can then read this transient structure and output whatever EDM we want
- Some complications:
  - Already found we use many std::vector implementations and rely on reserving the size to ensure performance → not a concept in EDM4Hep, uses std::deque instead, but may be revisited
- Explorations ongoing, but explicit documentation is the next step

Lamarr

Lamarr and the Gudi functional framework

What and why

- Currently work to implement the Gaudi Functional Framework (GFF) into Lamarro
- Motivation for using GFF
  - Take advantage of its native multithreading
  - Modernization of the Code

Progress

- Majority of the calorimeter has now been ported over to GFF
- Had some issues with importing geometry in a thread safe manor
  - This has been addressed
- Still having issues with thread safety of random number generator which needs to be addressed
  - Work on going
- Branch LamarrGaudi

Conclusion

Ongoing work on underlying software ongoing to remove event dependency from Lamarr and incorporate into Gaussino

Thread Safety of Lamarr being addressed, fundamental for G-on-G inclusion

More soon