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MESS: A Prototype for the Cherenkov Telescope Array Pipelines Framework

Saturday 1 August 2015 15:30 (1 hour)

The Cherenkov Telescope Array (CTA) will be a ground-based gamma-ray observatory with full-sky coverage in the very-high energy (VHE) regime. It is proposed to consist of more than 100 telescopes and should produce large amounts of data. Apart from the impact on the storage system, this also imposes tight requirements on the software framework to ensure efficient and robust data processing and trouble-free coding.

This contribution will present MESS (Modular Efficient Simple System), a pipeline framework design prototype for CTA that

- uses well-known tools like C, FITS and Unix pipes, allowing the algorithm developers to focus on physics problems without learning complicated software paradigms,
- combines unified interfaces with flat data structures for direct data access in order to facilitate the development of modules for this framework
- can construct complex pipelines with arbitrary event selection on the command line and run them as fast as dedicated compiled programs.

In the presentation, these and other features of MESS will be explained in detail, accompanied by example pipelines for real-world use cases.

Collaboration

CTA

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