



Saving storage space for HL-LHC with augmented files within ATLAS

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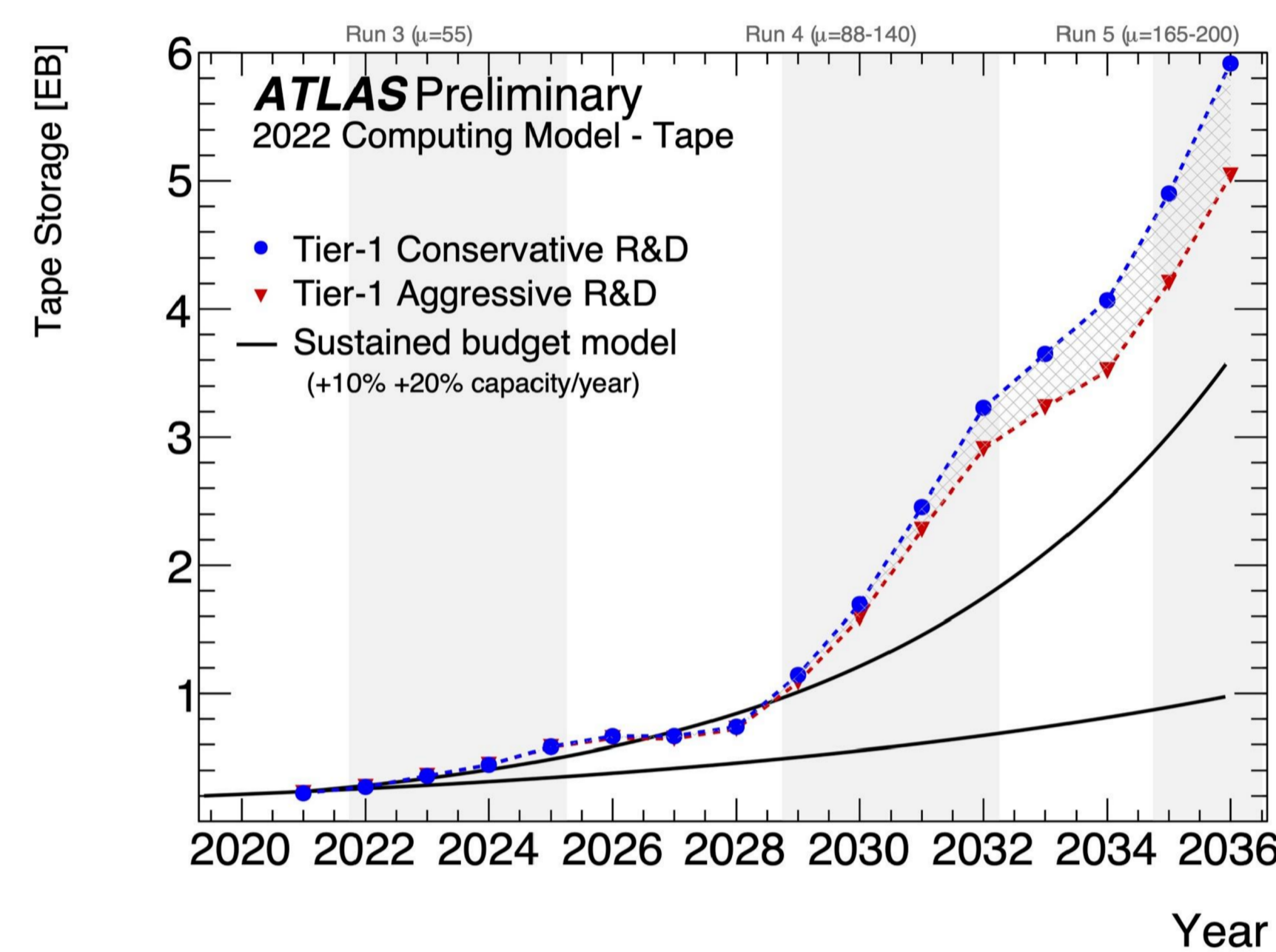
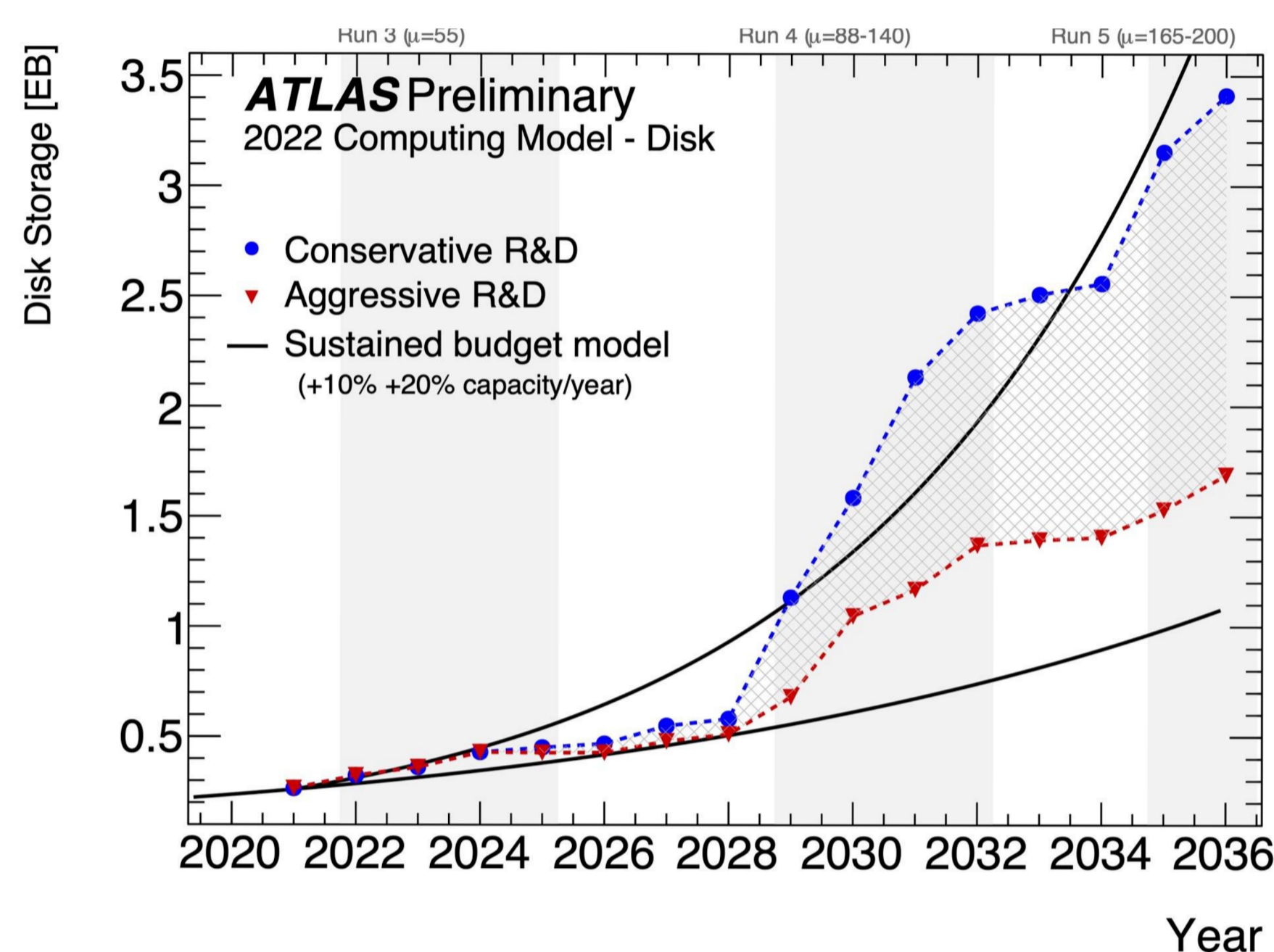
LHCC poster session – 27 November 2023

Introduction

ATLAS has been developing a new storage strategy, referred to as augmented files, which is designed to reduce duplicated data in files.

Projection for HL-LHC

In 13 years, expect an increase by a factor **~8 & 30** of disk & tape storage spaces



source: LHCC-G-182

File augmentation

Traditional file

- All event information is stored in a single tree
- Each analysis/group has its own files

→ A lot of common information is duplicated across files of the different analyses

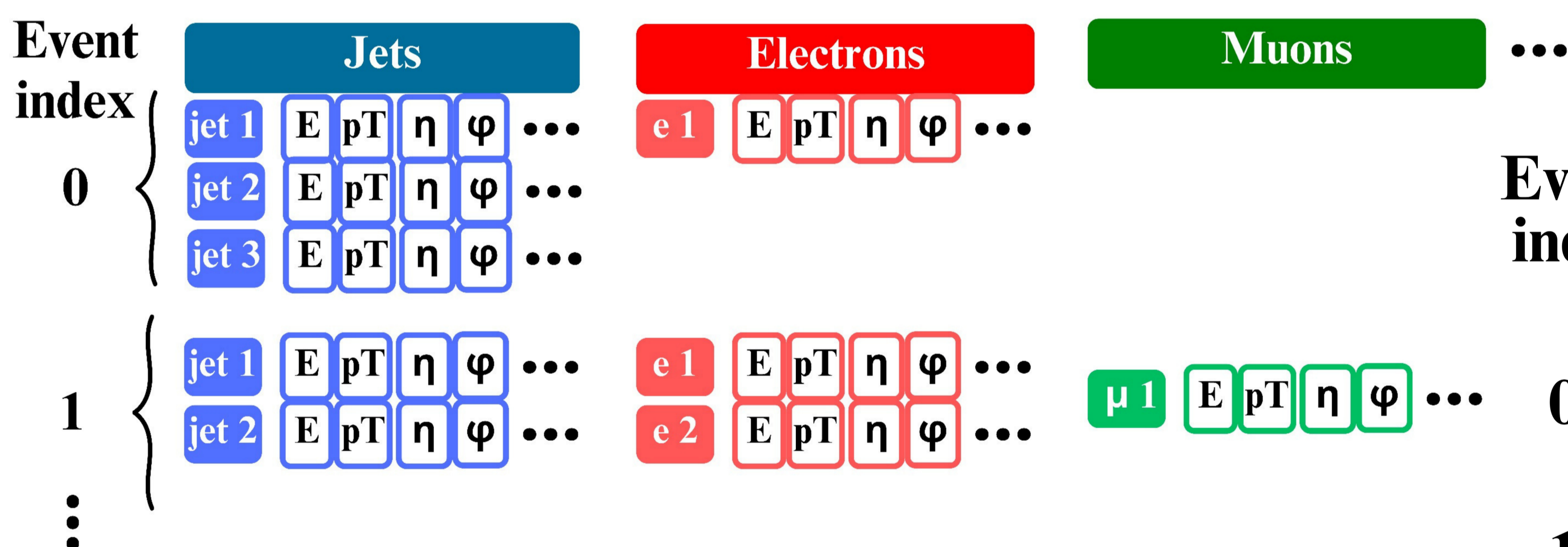
→ Waste of computing resources to produce those different files

Augmented file

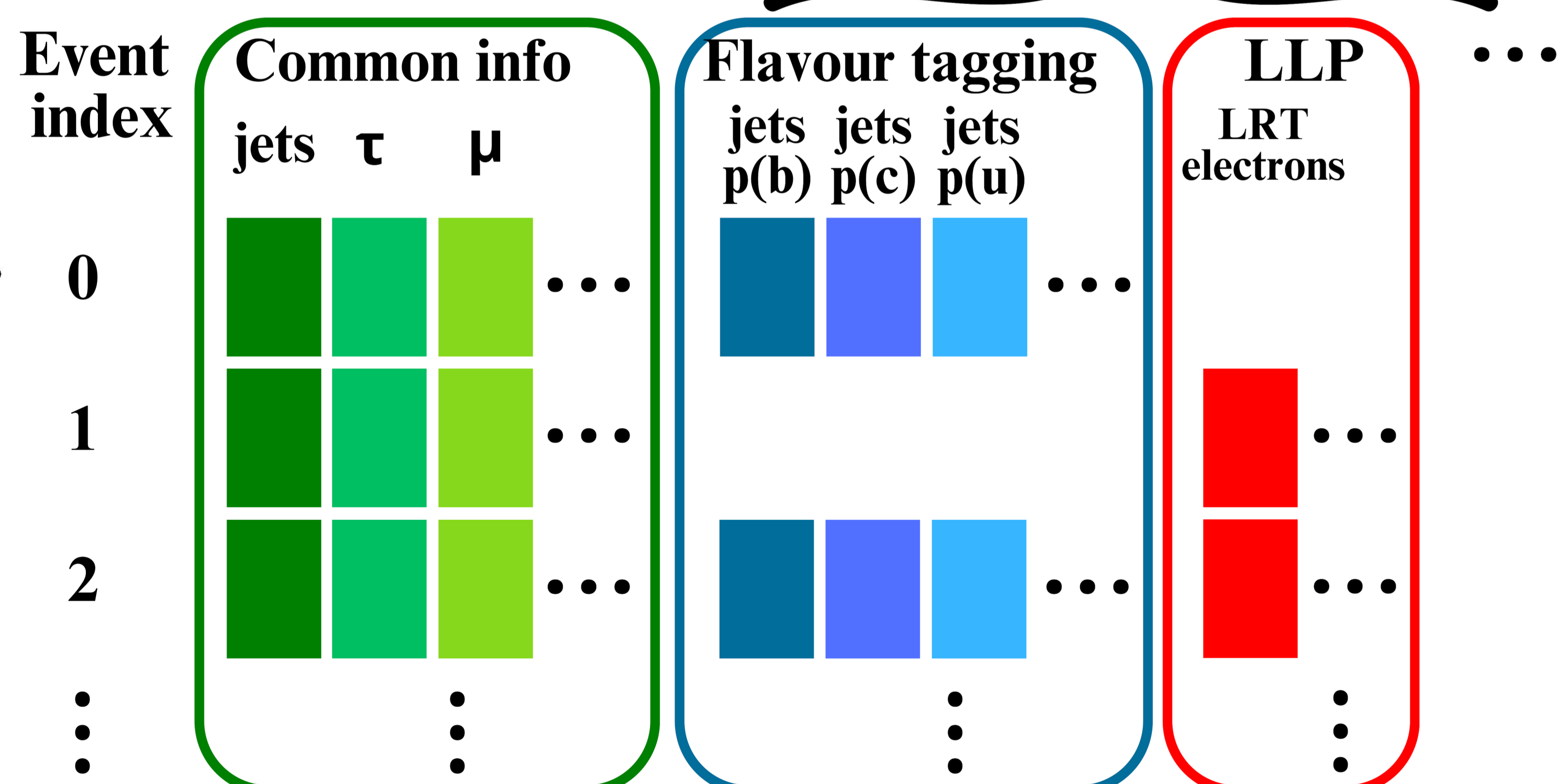
- Common information is stored in a main tree
- Specific analysis information is stored in side trees for only the fraction of events passing dedicated selections

→ Single file produced for several groups which are looking at different information & regions of phase space

Tree content



Analyses specific info



Status

- Production & Reading of augmented files
- Tests & Integration within the ATLAS code



More info: ATL-COM-SOFT-2023-086



Università di Genova



ATLAS EXPERIMENT