LPSC Grenoble

P-A Delsart

ATLAS France CAF-PAF meeting
21st November 2023

Team

Composition of the team
- **1 enseignant-chercheur** : J. Collot
- **6 CNRS** : S. Crépé-Renaudin (DAS In2P3), P-A Delsart, J-B De Vivie Regie(group leader), M-H Genest,F Ledroit, F Malek,
- **3 IR** : J. Fulachier, F. Lambert, J. Odier
- **1 post-doc** (Luka Selem), **2 phD** (G. Albouy, T. Wojtkwoski)

Involvement of the team in computing
  None

Involvement of the team in software
Staff IE/IR : 3 IR (J. Fulachier, F. Lambert, J. Odier), total **2.05 FTE** sur AMI-ATLAS

Physicist **0.73 FTE** (J-B de Vivie, P-A) : egamma, jets, AMI/ADAM

Computing resources in 2023-2024

→ *description of computing resources available for the team in the laboratory*

No more T2 at LPSC

T2 ressource are redistributed for the lab (local batch farm & disk)

Other local (lab, university) resources *(whatever is non grid)*
   - GRICAD : common computing ressources in Grenoble AREA
(not actively used by LPSC last year)

Analysis and needs

Jet Calibration with DNN
- → Derivation+athena software entirely done at LPSC
- → Using GPU farm at CC-IN2P3, mostly interactive & batch jobs
- → model, input and amount of data : pre-processed ntuple from the grid
- → Public result ! Submitted to MLST
    https://arxiv.org/abs/2311.08885

Jet constituent-level calibration with GNN
- → pre-processed ntuple from the grid + custom PyTorch code at CC-IN2P3
- → Using GPU farm at CC-IN2P3, mostly interactive & batch jobs
- → (mostly during 1st semester)

Dark sectors & Emerging Jets analysis in Run3
- → Contributions to all aspect of the analysis
- → trigger, analysis code (on-grid and local), analysis strategy, analysis interpretation and re-cast, truth studies.
- → Using CC-IN2P3 interactive and batch : ~4Tb + low batch usage

Database devellopments for ITK
- → At CC-IN2P3

Near future

Activities of the team
- DNN jet calibration : re-derivation with mc23 (~20h of GPU training)
- Emerging jets analysis : evolve to "production" mode with more intense batch & disk usage (systematics + statistic analysis).
  - ▷ Plan to use LOCALGROUP disk if SPS is full.
- Constituent calibration with GNN : similar activity with ~100h GPU needed.

Resources and needs
- → CC-IN2P3 is enough and working well !

Details on Software involvement

Information taken from this link
Total = 0.73 FTE

Name	OTP	Activity	System	Task	FTE
G. Albouy	C3	Analysis Support	General Tasks	Internal Software	0.05
P-A. Delsart	C3	Computing/Software	General Tasks	Reconstruction	0.14
P-A. Delsart	C3	Analysis Support	General Tasks	JetEtmiss	0.10
J-B. de Vivie	C3	Computing/Software	General Tasks	Reconstruction	0.30
J-B. de Vivie	C3	Analysis Support	General Tasks	Internal Software	0.10
Ana Peixoto	C3	Analysis Support	General Tasks	JetEtmiss	0.02

Details on ADAM involvement

Information taken from this link
Total = 2.05 FTE

Name	OTP	Activity	System	Task	FTE
P-A. Delsart	C3	Computing/Software	General Tasks	ADAM Group Coordination	0.20
P-A. Delsart	C3	Computing/Software	General Tasks	Dataset-level Metadata Catalogues and Infrastructure (AMI)	0.05
J. Fulachier	C3	Computing/Software	General Tasks	Dataset-level metadata catalogs and infrastructure (AMI)	0.50
F. Lambert	C3	Computing/Software	General Tasks	Dataset-level metadata catalogs and infrastructure (AMI)	0.65
J. Odier	C3	Computing/Software	General Tasks	Dataset-level metadata catalogs and infrastructure (AMI)	0.65

Details on Computing involvement

LPSC Tier2 shut down.

Some FTE still wrongly attributed to LPSC :

- 0.04 P-A Delsart (Cloud an operation management)
- 0.12 INSTITUTE (FR LPSC)