CEA / IRFU

E. Chapon, F. Déliot
for CEA / Irfu team

ATLAS France CAF-PAF meeting
14th December 2022

Team

Composition of the team

→ *17 permanent, 3 postdocs, 7 PhD (4 co-tutelles)*

Involvement of the team in computing

Staff IE/IR : 0.45 (GRIF)

Staff physicist : 0.1 (CAF / GRIF)

Involvement of the team in software

Staff IE/IR : 0

Staff physicist : 0.10 (muon alignement)

Involvement of the team in ADAM

Staff physicist : 0.54 (group coordination, DB dev, muon DB)

Computing resources in 2023-2024

« Grid » pledged resources in 2023
- storage (GRIF) = 6099 TB in 2023 (6150 TB installed in EOS)
  - pledge 2024 = 7221 TB
- computing (GRIF-IRFU) = avg. 53200 HS06 in 2023 (pledge GRIF : 65200 in 2023, 69527 in 2024)
  - IRFU share : 70560 HS06 total (27955 for ATLAS)

Other « grid » resources *(if available, correspond to non pledged resources)*
- storage (GRIF) = 700 TB i.e LOCALGROUPDISK in 2023 (27% free)

Other local (lab, university) resources *(whatever is non grid)*
- storage
  - 171T (scratch, 34% used) + 62T (work, 95% used)
- computing (servers, clusters, etc …)
  - local cluster (Feynman) : 28 * (64 cores, 256 GB RAM), batch : Slurm
- high performance computing (HPC, GPU ….)
  - 4 GPUs (GA100) @ Feynman
  - HPC : TGCC / Joliot-Curie → investigating whether it can be used

Analysis and needs

Analysis

→ ttH multilepton CP (GPU CC IN2P3)
→ 4top
→ EWK precision: W pT, W mass, Z mass (running at CC IN2P3)
→ light-by-light (tau g-2, massive gravitons)

Detector studies

→ Data quality of LAr Phase-I digital trigger
→ Data quality checks of NSW
→ Alignement of the muon spectro

Machine Learning studies

→ ttH multilepton CP analysis (GPU @ CC IN2P3)
→ PLIV (Prompt Lepton Improved Veto) for Run 3
→ ItK pixel – automatic visual inspection of modules (GPU @ CC IN2P3)

Near future

→ *please adress foreseen evolutions in near future (~2 years) which could affect software and computing (mostly if different from what was shown last year)*

No major change in terms of computing / software

IRFU software involvement

Information taken from *OTP report*
Software involvement = 0.10 FTE (S&C+AS Activity = 0.10 FTE)
(Core=0, Upgrade=0, Data/Detector=0.10, Ana/Reco=0)

Muon detector: 0.10 FTE (Data/Detector=0.10) [S&C+AS=0.10]

Name	OTP	Activity	System	Task	FTE
P-F. Giraud	C3	Computing/Software	Muon	Muon detector performance	0.10

IRFU ADAM involvement

Information taken from *OTP report*
ADAM involvement = 0.54 FTE

ADAM: 0.54 FTE

Name	OTP	Activity	System	Task	FTE
A. Formica	C3	Computing/Software	General Tasks	ADAM Group Coordination	0.10
A. Formica	C3	Computing/Software	General Tasks	TAG/EI and conditions/metadata database development	0.40
A. Formica	C3	Detector Operation	Muon	Muon DataBase Coordinator	0.04

IRFU computing involvement

Information taken from OTP report
Total computing involvement = 0.55 FTE (0 C2, 0.05 C3, 0.50 C4)

Class 2 : 0 FTE

Name	OTP	Activity	System	Task	FTE

Class 3 : 0.05 FTE

Name	OTP	Activity	System	Task	FTE
E. Chapon	C3	Computing/Software	General Tasks	Cloud Operation & Management / cloud manag.	0.05

Class 4 : 0.50 FTE

Name	OTP	Activity	System	Task	FTE
Institute	C4	Computing/Software	General Tasks	FR GRIF, Saclay	0.45
E. Chapon	C4	Computing/Software	General Tasks	FR GRIF, Saclay	0.05