

FCC activities in Clermont (2025):

- The team as of February 2025:

- Permanent physicists: H. Chanal (MCF), R. Madar (CR), S. Monteil (PR)
- Part time post-docs: Y. Hou (LHCb), M. Yeresko (ATER)
- Theses defended: L. Roehrig (Ph.D., nov 2024), T. Miralles (Ph.D., oct 2024)
- Theses ongoing: W. Weber (start oct. 2024), L. Moeser (start oct 2024) [Co-tutelles]
- Engineers: M. Magne (IE), D. Picard (IE).

- Physics preparation activities:

- Electroweak observables: b-(c,s)tagging with exclusive b-(c,s)hadron decays. Paper on Rb and AFB(b) in internal review. Submission in Spring.
- Vertexing performance driven by Flavours, e.g. $b \rightarrow s\tau^+\tau^-$. Analysis note to be converted in paper.
- Studies on charm physics $D^0 \rightarrow \pi^+\pi^-\nu\bar{\nu}$ [Coll. w/ Dortmund and BNL]
- Some additional EWK and flavour ideas to explore [Coll. w. CERN TH].
- Immediate: the flavour benchmarks for ESPP (not everything at hand).

- Contributions to DRD: GRAiNITA

- Electromagnetic calorimeter with grains of crystals in coll. with IJCLab (G. Hull et al.)
- R&T / MP IN2P3. Involves Hervé Chanal (MCF), Magali Magne and David Picard (IE Electronics), Mike Yeresko (ATER), SM, Y. Hou.
- One paper from test benches on a small prototype. Stochastic term potentially at 2%!!
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- Test beam at CERN: uniformity with pion and muon beams. Confirmation of the stochastic term. Constant term likely smaller than 1%. Publication to come.
- ANR application for the construction and qualification of a module-like prototype. Second submission. Went Phase II at last round.
- FCC EoI submitted for GRAiNITA.
- Pulse Shape Discrimination idea in development (simulation and low E p test-beam).