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ATLAS and BSM reinterpretation

Monday, 20 October 2025 13:00 (1 hour)

The broader field of particle physics is greatly enriched when those outside the ATLAS can make the best use of our research, and the re-usability of ATLAS results is crucial to securing the long-term physics legacy of the LHC. One of the key components of reusability is the reinterpretation of ATLAS analyses by external frameworks (such as RIVET, CheckMATE, MadAnalysis or ColliderBit) that implement a simplified version of the analysis logic. This talk will demonstrate exactly how this method works in practice (and how ATLAS — sometimes! — makes it more straightforward); highlight some recent phenomenological results that used these tools; and show how ATLAS itself from being open to reinterpretation. The talk will conclude by looking at one of the challenges that may make reinterpretation harder going forwards, specifically the rise of (highly) ML-dependent analyses; and what techniques may help mitigate these problems going forward.

Presenter: PROCTER, Tomasz (Jagiellonian University)