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LHCb Stripping Project: Continuing to Fully and Efficiently Utilize Legacy Data

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The LHCb collaboration continues to primarily utilize the Run 1 and Run 2 legacy datasets well into Run 3. As the operational focus shifts from the legacy data to the live Run 3 samples, it is vital that a sustainable and efficient system is in place to allow analysts to continue to profit from the legacy datasets. The LHCb Stripping project is the user-facing offline data-processing stage that allows analysts to select their physics candidates of interest simply using a Python-configurable architecture. After physics selections have been made and validated, the full legacy datasets are then reprocessed in small time windows known as Stripping campaigns.

Stripping campaigns at LHCb are characterized by a short development window with a large portion of collaborators, often junior researchers, directly developing a wide variety of physics selections; the most recent campaign dealt with over 900 physics selections. Modern organizational tools, such as GitLab Milestones, are used to track all of the developments and ensure the tight schedule is adhered to by all developers across the physics working groups. Additionally, continuous integration is implemented within GitLab to run functional tests of the physics selections, monitoring rates and timing of the different algorithms to ensure operational conformity. Outside of these large campaigns the project is also subject to nightly builds, ensuring the maintainability of the software when parallel developments are happening elsewhere.

Primary authors: VENKATESWARAN, Aravindhan (EPFL - Ecole Polytechnique Federale Lausanne (CH)); RODRIGUES, Eduardo (University of Liverpool (GB)); REDI, Federico Leo (Università degli Studi e INFN Milano (IT)); SMITH, Mark (Imperial College (GB)); Dr GRIESER, Nathan (University of Cincinnati (US)); Dr SKIDMORE, Nicole (University of Warwick); SAHOO, Niladri (University of Birmingham (GB)); SHENQ, Shuqi (IHEP (CN))

Presenter: Dr GRIESER, Nathan (University of Cincinnati (US))

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