

## First look: W and Z bosons at the LHCb Upgrade Experiment with 2024 p-p collision data

*Monday 7 April 2025 17:30 (15 minutes)*

Electroweak physics is foundational to particle physics' Standard Model via the spontaneous symmetry breaking and the emergent Higgs mechanism. Through this, the electroweak parameters can be interpreted as precision tests of the Standard Model with the possibility to suggest new physics.

The LHCb Upgrade I represents a major change for LHCb, including running at an instantaneous luminosity 5 times larger than previously possible.

This is particularly important for precision electroweak physics at the LHCb - which uses muonic decay channels to extract information about the W and Z bosons - as several published measurements are statistically limited while using LHCb legacy data.

This talk will cover the first look at the production of W and Z bosons at this new detector, and future prospects with the ongoing data-taking of the LHCb Upgrade I.

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