Novel Real-time Alignment and Calibration of LHCb in Run2

Target

• Use best alignment and calibration already in trigger to produce reprocessed-like quality data
• Provide new constants as soon as possible

Requirements

• **Speed**: runs as soon as enough data is collected
• **Iterative** to find convergence
• **Automatic** (LHC never sleeps...)

New Dedicated Framework

• Parallelised events reconstruction (~1700 nodes)
• Alignment constants computed on single node
• Use evaluated constants for eventual new iteration
• Update constants in the trigger if needed

A Working Model for Future Experiments