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Title: Settings generation, management and verification

Different collimator settings are required throughout the LHC operational cycle following the evolution of key beam parameters like energy, orbit and beta functions. Beam-based alignment is used to determine the beam centres and beam sizes at the collimators at discrete times in the cycle (injection, flat-top, collision ...).

These parameters are the used to generate setting functions for the collimator positions and interlock limits. An overview of the settings generation, management and verification cycle is provided, and potential error scenarios are identified. Improvements foreseen for the post-LS1 operation are discussed. A functional description for the operation of the embedded-BPM collimators that will be installed in 18 collimator slots during LS1 is presented, including the tested automatic alignment procedure, software interlocks and orbit monitoring. The present collimator status monitoring system is reviewed with suggestions for improvement, and the role of MAD-X online is discussed.