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Collimators and movable objects

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The LHC collimation system is responsible for providing clean beam conditions and hence to assure the protection the equipment in the LHC. A failure of the collimation system may trigger a beam dump to avoid magnet quenches.

The post mortem data of the collimation system supplies the following information

- Demanded and actual positions of all collimator jaws (millisecond accuracy)

Note: information on the actual positions is provided by resolver, position and gab lvd't's as well as end switches and anti-collision switches).

- Temperatures of the jaws
- Jaw vibrations over a period of a few seconds before and after the beam dump
- BLM transient data during a collimator movement.
- Command history

The first analysis of the collimator post mortem data must assure that there were no internal failures in maintaining the actual collimator positions.

A second analysis in combination with information from beam loss, beam position and beam profile monitors should validate that the collimation efficiency was as required.

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