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## The millisecond x-ray fast shutter for BL31 at ALBA

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A new high-speed beam shutter has been developed for the fast x-ray tomography & radioscopy (FAXTOR-BL31) beamline at the ALBA synchrotron, which aims at preventing high dose rate at the sample and provides a synchronization to the acquisition protocol. The non-periodic fast shutter is based on the combination of two tungsten blades each one driven by linear voice coil actuators. The blades synchronization achieves opening and closing times of 10 ms for a monochromatic beam size of H 40 mm x V 12 mm aperture. The design provides flexibility to adjust the aperture dimensions and speed to be able to control the radiation dosage upon the sample, triggered by the image acquisition rate of the detector or timing device. The essential aspects of the design are presented, along with an analysis of the commissioning tests that demonstrate the required performance.

### Footnotes

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