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## The new microfocus station for the NOTOS beamline at the ALBA synchrotron

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The NOTOS beamline at ALBA combines X-ray Absorption Spectroscopy (XAS) and X-ray Diffraction (XRD) experiments, operating in the 4.5-30 keV range. Since 2022, it has offered two end stations (ES): one for metrology and XAS, and another combining XAS and XRD. To overcome the current  $100 \times 100 \mu\text{m}^2$  spot size limitation, we present a third microfocus ES ( $\mu\text{Fo-ES}$ ), planned for commissioning by the end of 2025. It will provide spot sizes below  $10 \times 10 \mu\text{m}^2$  with a flux  $> 7.3 \cdot 10^{13}$  ph/s/mm<sup>2</sup>, enabling XAS in fluorescence and transmission. It uses the existing optics plus a pair of Kirkpatrick-Baez (KB) mirrors working under high vacuum. The KB positioning system is based on an in-house developed design and the mirrors will be elliptically bent using ALBA mirror benders with sub-nanometric resolution. High-precision slits placed upstream the KB will ensure beam size, collimation, and diagnostics. The  $\mu\text{Fo-ES}$  will integrate a compact sample environment including a ionization chamber, on-axis camera, and a fluorescence detector for variable incident angles. To ensure compatibility with downstream ES and prevent photon flux loss, the  $\mu\text{Fo-ES}$  has been designed to be fully retractable from the beam path.

### Footnotes

### Funding Agency

InCaem

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