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First Mirror Stability at the MAX IV Soft X-ray Beamlines

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The multi-bend achromat, fourth-generation storage rings have increased beam brightness due to the order of magnitude lower emittance that can be achieved. The higher brightness comes with smaller beam sizes and narrower radiation cones which in turn deposit higher power density in the optical components. Maximizing the transmission and ensuring the stability of the brilliance from the source down to the sample via the many optical components depends on good mechanics and dealing effectively with the increased heat load and secondary particle generation.

This paper presents observations and lessons learned from the soft X-ray beamlines at MAX IV in addressing long thermal stabilization times at the first mirrors in the beamline, and the negative impacts of increased photoelectron generation at the mirror surfaces.

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I plan to submit also conference proceedings

Yes

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