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Flare accelerated electrons detected at anchor points of erupting filaments

Stiefel et al. (2023) reported on a first observation in hard X-rays of nonthermal emission coming from the anchor points of an erupting filament. We concluded that flare accelerated electrons must have entered the flux rope and precipitated along the erupting filament into the chromosphere producing Bremsstrahlung in the hard X-ray range.

The detection of such events is challenging for present day instrumentations due to limited dynamical range in imaging hard X-rays. Complementary diagnostics in microwaves are therefore used to search for gyrosynchrotron emission from within the erupting filaments. Here we present joint STIX and EOVSA observations of the SOL2023-12-31 X5-class flare.

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