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The active Sun and its implication for the heliosphere
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Study of an erupting prominence rotation with STEREO data

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On August 31, 2007 a prominence eruption was observed by STEREO/EUVI and later on by STEREO/COR1, as the core of a three-part CME. We employed the tie-pointing technique to reconstruct the 3D shape and trajectory of the prominence, which has been followed up to 2.4 solar radii. Data show evidence for a progressive clockwise prominence rotation by 90° , occurring not only in the early phase of the eruption sampled by EUVI, but also at larger heliocentric distances as seen by COR1. Counter-clockwise rotation of the H-alpha filament and clockwise rotation of the potential field extrapolated at different times possibly suggest that a magnetic helicity storage occurred not in the filament itself, but in the global magnetic field configuration of the surrounding corona. The observed rotation of an erupting prominence, if representative of the flux rope rotation, may have a strong impact in the definition of geo-effectiveness of CMEs for space weather forecasting purposes.