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The active Sun and its implication for the heliosphere
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Kinematics of Two Eruptive Prominences

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The 304 Å images from Extreme UltraViolet Imager (EUVI) on board the STEREO spacecraft were used to analyse two erupting northern polar crown prominences showing a twist in their spines. True heliographic coordinates of several features along the prominence spine were obtained by employing a stereoscopic reconstruction technique developed by us. The sense of helical twist in the prominence spines was determined from the changes in latitudes and longitudes, while a significant decrease in latitude values implied an equatorward non-radial propagation direction during the eruption. The prominences showed a 2-phase eruption comprising of the slow rise and the fast-eruptive phase. A constant value of acceleration was observed during the fast-eruptive phase, which was however different from one leg of the the prominence to the other. We infer that this difference in acceleration is a result of the combined effect of helical twist and non-radial motion, i.e., the leg in which the two forces of acted in the same direction showed a higher acceleration than the other leg in which the two forces acted in opposite directions.