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Identification of solar coronal loops based on moments of image

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Abstract

In this paper, the method of identifying of the similar solar flux tubes from image sequence EUVI/STEREO is presented. Using the oriented coronal curved loop tracing, the loops of an image are labeled. Based on local maxima intensities, the width of loops is determined. The Zernike moments of each loop are calculated and fed to probabilistic network classifier. Also, 588 loops from STEREO are studied.

Keywords: sun, corona, loop, zernike, moment, neural network

For full article, refer to the Persian section