Imaging and spectroscopic measurements of ejected mass and UV emission in a CME

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Abstract

The mass of erupting prominence material can be quasi-spectroscopically inferred from the photo-ionisation obscuration of emission behind this mass of cool plasma (Williams et al. 2013), thanks to the rapid cadence of AIA EUV images in the short wavelength band. In this work, we compare this quasi-spectroscopic approach with actual spectra from Hinode EIS to disentangle the contribution of emission from absorption to the AIA images, and to gain further information about the temperature and dynamics of the plasma responsible for the emission seen in the immediate vicintiy of the erupting prominence material.

Keywords: eruption, prominence, photo, ionisation, absorption, diagnostics, temperature, dynamics.

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