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Detection of inflows and outflows with Metis VL observations

We have analyzed high temporal frequency VL observations acquired by Metis during the perihelia on March, October 2022 and April 2023.

In particular, we focused on series of total and polarized Brightness observations lasting for 40 min up to few hours, acquired with a cadence of 20 s and 60 s.

The field of view of the observations ranges from 1.7 to 3.5 solar radii.

We have found in these data sets several examples of inflows, which we identify as collapsing loops and outflows, identified as density inhomogeneities (blobs), likely due to magnetic reconnection.

These phenomena have been associated with the coronal magnetic structures and dynamics derived from a MHD model, and are compared with the theoretical simulations.

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