

## Solar Corona Magnetometry at Dome C

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Space observatories, like SoHO, continuously survey the solar corona.

They provide extraordinary X-rays and EUV images of the corona, giving excellent illustration of the magnetic field control on this complex and very dynamics million-degree temperature highly conductive plasma.

The solar magnetic field permeates through the corona into the heliosphere.

There are no current or planned satellite missions able to perform the magnetic field measurements we need to really understand physical processes going on in the corona.

The only direct method to access low corona magnetic fields is the use of Zeeman effect. Infrared emission lines are the best candidates for those measurements.

Thanks to its very pure skies, its very high image quality and IR transparency, Antarctica could be the only site allowing spatially resolved magnetic fields measurements in the very low corona where many physical processes important for coronal heating, CMEs triggering or solar wind acceleration take place.

A complete characterization of Dome C in terms of coronal observations, using a small coronagraph, is the first step towards a larger instrument dedicated to coronal magnetometry.

We briefly present this project.