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Sky brightness evaluation at Concordia Base, Antarctica

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The study of the sky characteristics plays a fundamental role for many astrophysical experiments and onground observations. In the field of solar physics, in particular for the observation of the solar corona, it is required to have a very low sky brightness value.

Currently the only place on Earth with the sky characteristics that allow a continuous coronagraphic measurements is at the Mauna Loa Observatory - MLO (Hawaii, ~3400m a.s.l.).

In the following, we show the results obtained as part of the ESCAPE project in Antarctica. In particular, some of the outcome obtained during the XXXIV and XXXV Italian missions in Antarctica at the Concordia Base (Dome C, ~ 3300m a.s.l.) are presented. The local sky brightness was one of the measured quantities. These data were carried out with a coronagraph (AntarctiCor) designed and built for Antarctic environments and able of capturing, at the same time, images with 4 different polarizations.

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