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In the context of the Surface Layer investigation at ESO Paranal Observatory, a Surface Layer Slope Detection And Ranging (SL-SLODAR) instrument prototype has been used at Paranal during 2012, while Lunar Scintillometer (LuSci) measurements campaigns are being carried out since 2008. Simultaneous Surface Layer profiling data from the two instruments are analysed in order to compare the two instruments to enforce their reliability and finely characterize the Paranal Surface Layer profile.

BETA is the slope of the turbulence power spectrum delivered by the SL-SLODAR. It is intended purely as a diagnostic tool to indicate whether the Cn2 profile can be trusted. When BETA is significantly less than 3.667 (Kolmogorov law value) this generally indicates that the wind speed is low and the data sets are too short to fully sample the low frequency components of the turbulence. Around the Kolmogorov value, the integrals form the SL-SLODAR and LuSci are pretty much the same. This is valid also in the first 20 m above ground only (SL).

Both instruments agree very well when the wind speed on the Paranal platform is higher than 3 m/s. This last result suggests that wind speed higher than 3 m/s allow to have more reliable turbulence profile measurements from both instruments for further analyses of the Surface Layer. Furthermore, the disagreement of the two instruments in connection with wind speed lower than 3 m/s also suggests that the wind speed is a critical parameter to be taken into account before the treatment of the data.

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SOUTH POL: REVEALING THE POLARIZED SOUTHERN SKY

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SOUTH POL will be a survey of the Southern sky in optical polarized light. It will use a newly designed polarimeter for an 80cm Robotic Telescope. Telescope and polarimeter will be installed at CTIO, Chile. The initial goal is to cover the sky south of declination -15° in about two years of observing time, aiming at a polarimetric accuracy $\leq 0.1\%$ down to V=15, with a camera covering a field of about 2.0 square degrees.

SOUTH POL will impact areas such as Cosmology, Extragalactic Astronomy, Interstellar Medium of the Galaxy and Magellanic Clouds, Star Formation, Stellar Envelopes, Stellar Explosions and Solar System, among others.

The polarimeter is currently being built and its optics and electronics assembled. We will describe the current status of the project.

This project is supported by FAPESP. AMM is also supported by CNPq.

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IMPROVING INPE′S BALLOON GROUND FACILITIES FOR OPERATION OF THE PROTOMIRAX EXPERIMENT

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The system requirements for reusing the scientific balloon ground facilities available at INPE were a challenge to the ground system engineers involved in the protoMIRAX X-ray astronomy experiment. A significant effort on software updating was required for the balloon ground station. Considering that protoMIRAX is a pathfinder for the MIRAX satellite mission, a ground infrastructure compatible with INPE′s satellite operation approach would be useful and highly recommended to control and monitor the experiment during the balloon flights. This approach will make use of the SATellite Control System (SATCS), a software-based architecture developed at INPE for satellite commanding and monitoring. SATCS complies with particular operational requirements of different satellites by using several customized object-oriented software elements and frameworks. We present the ground solution designed for protoMIRAX operation, the Control and Reception System (CRS). A new server computer, properly configured with Ethernet, has extended the

XIV Latin American Regional IAU Meeting (Florianópolis/SC, Brazil, 25-30 November 2013)
Editors: A. Mateus, J. Gregorio-Hetem & R. Cid Fernandes