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ALTA project, state of the art

The ALTA project aims to implement an automated system for the forecasts of atmospheric parameters (Meso-Nh code) and optical turbulence (Astro-Meso-NH code) for the service-mode operation of the LBTI. The final goal of such an operational tool is to provide predictions with high time frequency for an optimized planning of the telescope operation (dome thermalization, wind-dependent dome orientation, observation planning based on predicted seeing, adaptive optics optimization, etc...). In this contribution we present the state of the art of the ALTA project. We present the final results of an extended validation study, recently published, performed by comparing atmospheric parameters (wind speed, wind direction, temperature, relative humidity) forecasted by the numerical model (Meso-NH) close to the ground with measurements taken by the observatory instrumentations on a large sample of 144 nights uniformly distributed between 2014 and 2015. We also presents a preview of the current ongoing studies targeted to validate the model for optical turbulence parameters (CN2 profiles, seeing), and for the water parameters relevant to astronomy in the near-infrared (precipitable water vapor and relative humidity vertical profile).

Author: TURCHI, Alessio

Presenter: TURCHI, Alessio