

Author: Julien Milli (ESO)
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Title: The Paranal astrometeo team: scope and on-going projects

Abstract:

With the generalization of adaptive optics (AO) or interferometric instruments at the Paranal observatory, new atmospheric parameters need to be monitored, such as the coherence time, the vertical distribution of the turbulence or the anisoplanatic angle. As a result, a suite of new instruments was added to the DIMM as part of the Astronomical Site Monitor (ASM), such as the MASS, the SLODAR or the SCIDAR. AO systems themselves also provide estimations of the turbulence and give therefore access to the turbulence directly seen by the instrument.

This also gave rise to the development of new projects related to atmospheric monitoring, instrument performance monitoring and sensitivity analysis to atmospheric parameters. In order to coordinate all these activities, and share our expertise and tools, we created the astrometeo team. In this talk, I will present the scope of the team along with some of the on-going projects. This includes among other: the performance of VLT/SPHERE vs atmospheric conditions, the Paranal distribution of turbulence as seen from the SCIDAR, telluric correction using Molecfit, Lathpro automatic sky classification.