

ATMOSPHERIC TURBULENCE PROFILING FOR TELESCOPE IMAGING

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Abstract

Adaptive optics (AO) is a technology in modern ground-based optical telescopes which aims to compensate for the optical wavefront distortions caused by atmospheric turbulence in real time. A key part of this technology is the severely ill-posed inverse problem of atmospheric tomography, where the turbulence above the telescope is reconstructed from wavefront measurements. Advanced AO systems rely on solid prior information in the form of a vertical turbulence profile and the Kolmogorov/von Kármán models of turbulence statistics. However, these models are known to be inaccurate close to the ground. I present a novel method which uses AO telemetry and inverse problems techniques to simultaneously recover the turbulence profile and infer a model for turbulence at the ground layer.

SEMINARIO

15 DE OCTUBRE
13 HRS

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