

Tip/tilt control strategies of E-ELT

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Summary

The image motion (tip/tilt) of the telescope is dominated by two types of perturbations: a) atmospheric b) wind load. The wind load effect on E-ELT can be an order of magnitude higher than the atmospheric effect. Part of the image motion due to the wind load on the telescope structure is corrected by the main axis control system (mainly large amplitude, low frequency errors). The residual tip/tilt is reduced by M5 and M4 mirror units. M5 with its large stroke and relative low bandwidth (higher than main axes) corrects for large amplitude and low frequency part of the image motion and M4 unit takes the higher frequency parts with smaller stroke availability. In this talk control strategies, in particular a two-stage control strategy for decoupling M4-M5, are presented and the results are discussed.

Auteur principal: Dr SEDGHI, Babak (ESO)

Orateur: Dr SEDGHI, Babak (ESO)

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