

Title: Keck/TMT collaboration on segment warping studies

Date: 24 September 2015

Venue: Old Auditorium (Telescopium) with Matthias Schoeck

Abstract:

The segment figure after warping is the single largest error term in both the Keck and the TMT seeing limited error budgets. While the warping method used at Keck has been working very well and reliably for more than 20 years, there are cases when the residual after warping is not quite as expected. The differences are generally small at Keck, but might be significant for TMT due to its larger aperture size. It is thus essential for TMT to understand their causes and whether they scale with aperture size. In addition, the somewhat different method for calculating warping harness forces to be used at TMT had previously never been tested on a real system. In order to address these points, we initiated a collaboration between Keck and TMT to investigate the theoretical limitations of different warping methods, sources of noise and error, and test (and implement) the TMT method at Keck, with an emphasis on work that benefits both observatories. I will present the current status and results of this work.