

Thursday 28<sup>th</sup> June 2012, L130 at 9:30

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Title: The Laser Tomography Adaptive Optics system of the Giant Magellan Telescope

Abstract:

The Giant Magellan Telescope (GMT) is one of the three Extremely Large Telescope programs. GMT is led by an international consortium of Universities and Science Institutes in the US, Australia and Korea. The Giant Magellan Telescope has an original design with a segmented primary mirror composed of seven individual mirrors, each 8.4m in diameter. Manufacturing of the segments has started with the first segment already completed and a second segment underway. GMT will be build at Las Campanas Observatory where site work has also recently begun. GMT has a rich Adaptive Optics (AO) program with 3 AO modes currently planned: Natural Guide Star AO, Laser Tomography AO and Ground Layer AO; all of them are in their preliminary design phase. After an overview of the GMT project, the presentation will focus on the LTAO system designed by the the Australian National University. Results of various trade studies regarding the design of the Laser Guide Star (LGS) wavefront sensors and the On-Instrument wavefront sensors will be exposed and the LGS facility, which has a lot in common with both the VLT and the E-ELT LGS facilities, will be discussed.