

Contributed Talk

The new mobile telescope at the CHARA array (No. 2280)



S6e: The future of visible/infrared High-Angular Resolution Astronomy in Europe

Survey and instruments

 Tue. 24th Jun.  16:00 - 16:15  Kane G2

Presenter



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Abstract

The Center for High Angular Resolution Astronomy (CHARA) Array consists of 6 telescopes at fixed positions, connected by vacuum pipes to the central beam combining facility. The CHARA Michelson Array Pathfinder (CMAP) project includes two major components: 1) a mobile telescope that can be placed at a number of locations, and 2) a fiber optic relay system to transport light to the existing delay lines and beam combiners. The telescope is a 1m Ritchey-Chrétien system built by PlaneWave Instruments, equipped with a custom-built instrument bench with Adaptive Optics and fiber injection. It is mounted on a trailer that can be moved around Mount Wilson Observatory. This enables new short baselines of ~15m for imaging the surfaces of large stars and new long baselines on the order of ~550m for resolving small stars. Initially, there are two sites at the array for this telescope. In the future, there are plans to expand to greater than 1 km maximum baselines. In this contribution, we present the progress on the various subsystems needed to integrate the new telescope and beam transport method into the existing CHARA