

The High Resolution 1.6 m Off-Axis Solar Telescope for BBSO – The NST

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Progress in building the NST (New Solar Telescope) will be reported. The NST is a 1.6 m clear aperture, off-axis solar telescope. The telescope is scheduled to see first light at Big Bear Solar Observatory (BBSO) in April 2007, and is a joint effort of BBSO, the University of Hawaii, the Korea Astronomy & Space Science Institute and the University of Arizona.

The telescope is off-axis to optimize low-contrast imaging, and will have a 3 arcminute field of view. Figuring and testing the figure of the large off-axis primary mirror presented unique problems. The NST (New Solar Telescope) will have wavefront sensor controlled, real-time active optics, and its light will feed BBSO's adaptive optics system, which in turn feeds infrared and visible light Fabry-Perot based polarimeters, as well as a real-time image processing system utilizing parallel processing.

The NST replaces the current 0.6 m solar telescope at BBSO, and required a new, larger, vented dome with new thermal and telescope control systems.

The complementary value of the telescope for upcoming space missions, such as SOLAR-B, STEREO and SDO will be discussed.