



NATIONAL OPTICAL ASTRONOMY OBSERVATORY

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NATIONAL SOLAR OBSERVATORY

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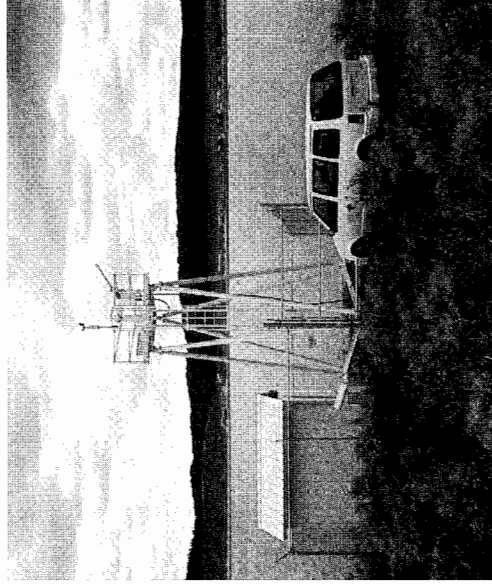




ATST Site Survey Status

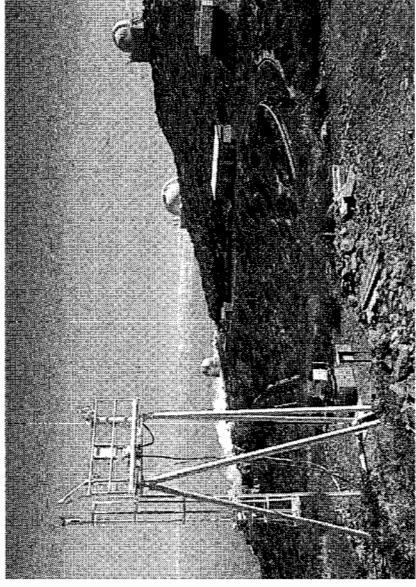
Frank Hill

The site survey effort for the Advanced Technology Solar Telescope (ATST) is rapidly nearing completion of the initial deployment phase. As of this writing, we have five sites operating and returning data: Big Bear, Haleakala, and Sacramento Peak were joined by Panguitch Lake, Utah, in early September and La Palma, Canary Islands, in early October (see accompanying tower photos). The last site to be deployed is San Pedro Martir, Mexico. There, the footings have been poured, a static crane has been built, and we are waiting for the test stand to clear customs in San Diego. By the time this is published, we expect that this last instrument will have been installed.



The ATST site survey test stand at Panguitch Lake, Utah.

The nagging wind shake problem has been solved. This proved to be a software problem: while the SDIMM application was reading the video memory buffer, the frame grabber was, on occasion, beginning to write the subsequent image. This corrupted the data and also resulted in an



The ATST site survey stand at La Palma, Canary Islands, Spain.

overcount of the number of points being averaged during a sample, which artificially lowered the estimated seeing. The problem was corrected by forcing the frame grabber to write a single image at a time. This lowered the number of samples per second from 30 to 15, which is still sufficient for a reliable measurement of the seeing.

Work is finishing up on the Sky Brightness Monitor in Hawaii. A prototype is operating at Haleakala, and software to point the mount is under development. These instruments should be delivered in the next 4 to 6 weeks.

Considerable progress has been made on the data reduction package. We now have an analysis package to estimate the turbulence and seeing as a function of height above the test stand. Scott Sales, a University of Arizona student, will perform the routine data reduction and quality checks. Once all of the sites have been producing data for a while, the summary results will be put on the Web without site identification.