



High Altitude Observatory (HAO)

National Center for
Atmospheric Research

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RE: Letter of support for a new telescope at Big Bear

To Whom It May Concern:

While the National Solar Observatory will have its main focus on developing the ATST for many years to come, the US solar physics community faces increasingly stiff competition from abroad. After the first wave of building five major European solar telescopes on the Canary Islands, Spain, was completed in the early nineties with telescopes that are more or less comparable to existing US ground-based telescopes the Europeans recently have stepped up their efforts:

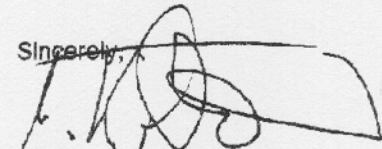
- The Swedish solar telescope on LaPalma, Canary Islands, Spain has recently been upgraded to a 1m aperture. Pictures recently released in Nature exhibit superior image quality with resolutions of solar fine structures in the G-band never seen before.
- The Germans have begun upgrading the Gregory Coudé telescope on Tenerife to a 1.5m open telescope similar to the original LEST design. The German telescope is supposed to go into operation around 2005.

Existing US solar telescopes will be no match for these new telescopes.

The New Jersey Institute of Technology will pursue an upgrade of its Big Bear Solar Observatory to a 1.6m open off axis telescope to be completed in the year 2006 roughly at the same time as the German 1.5m. The Big Bear new solar telescope (NST) will be a PI class instrument and will not have the status of a national facility. It will put a telescope on US soil that is competitive internationally and that will provide the capability for ground-based observational support of the major upcoming space missions like STEREO, the Solar Dynamics Observatory (SDO), and the Japanese/US Solar B mission. While the NST will not be a national facility, other researchers in the US solar community could gain access to the NST in collaborative efforts with NJIT/Big Bear researchers as they have for many years with the existing BBSO. Having a 1.6m ground-based telescope in the US will be a critical element for the on-going attraction of students to ground-based instrumental efforts and will therefore strengthen the base for a healthy community of young researchers in future years when the ATST becomes available.

I feel that the proposed Big Bear Telescope is an effort that fits well in an overall strategy for strengthening ground-based solar research in the US.

Sincerely,



Michael Knölker