

Concept Design of retractable dome for the proposed 2m class National Large Solar Telescope

ABSTRACT

The National Large Solar Telescope (NLST) is a proposed 2 m class telescope dedicated for making high resolution solar observations. A suitable site has been identified at Merak village, near Pangong Tso Lake in Jammu & Kashmir state, India.

It has been observed that installing a telescope near the lake produce good images during the day time observations. At the same time the open dome conditions help to reduce the “dome seeing effect”. The absence of dome around the telescope also ensures that no temperature gradient is created around the telescope and the cool breeze without any obstruction, helps to cool the telescope structure and mirror.

In this paper, we present a number of design concepts of retractable dome for NLST, their functionality, time taken to open and close the dome, power requirement, weights etc.

Keywords: Dome Concept Design, Retractable dome, National large Solar Telescope