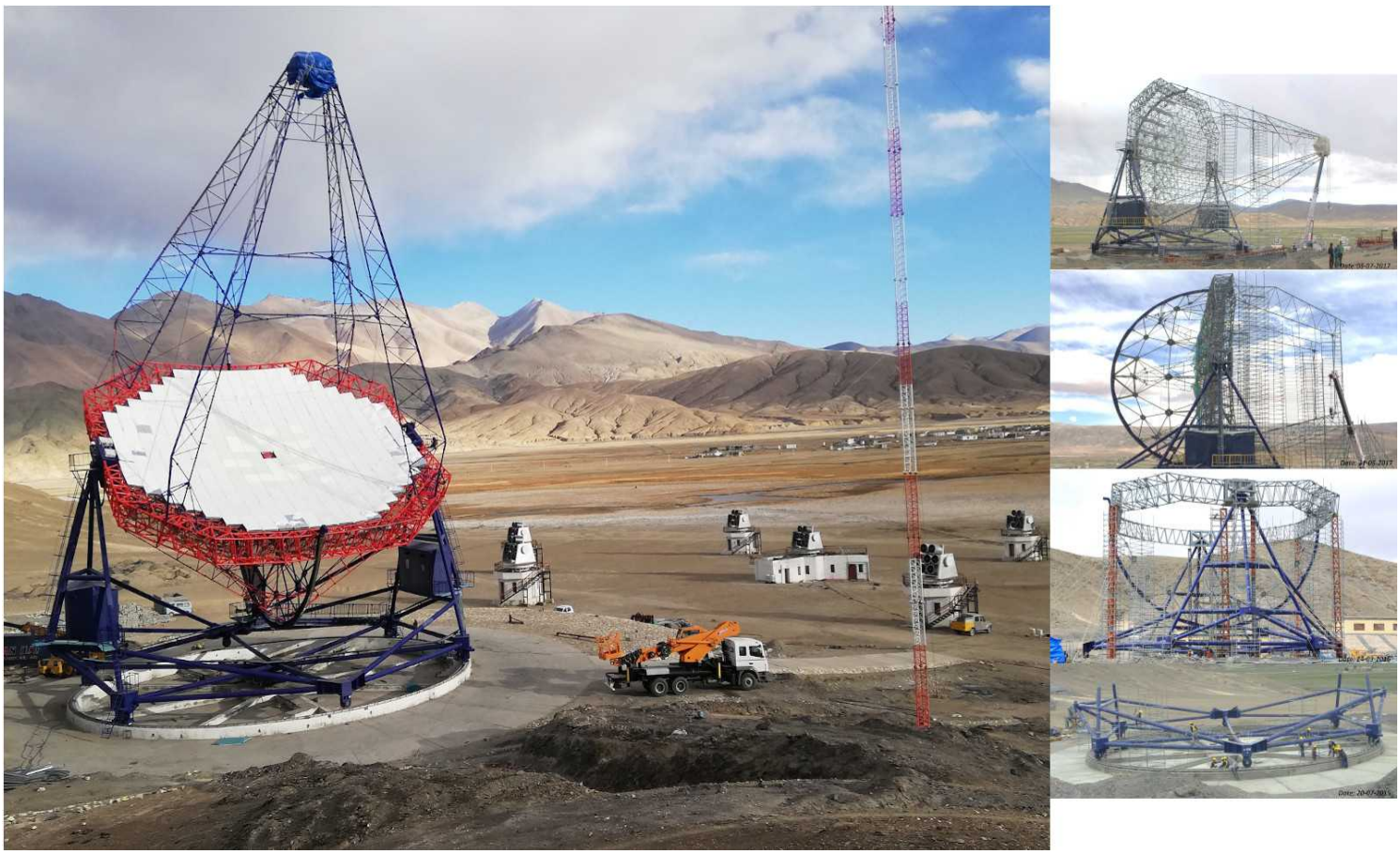
MACE gamma ray telescope

Exploring high energy gamma ray universe in the GeV-TeV energy region.



The main mandate of the MACE telescope is to enable the researchers to explore the high energy gamma radiation in the Universe. The high energy gamma radiation is produced along with the energetic cosmic rays at various astronomical sites. Therefore, origin and propagation of the gamma ray photons provide a unique experimental tool in the Astrophysics and Cosmology research. The MACE telescope is expected to play a very important role to study the sources of cosmic gamma radiation like Active Galactic Nuclei (AGNs), Gamma Ray Bursts (GRBs), Pulsars, Binary Star Systems, Remnants of Supernova explosions (SNR), Giant Molecular Clouds (GMC), Star Burst Galaxies and other objects in our Milky-Way Galaxy through observations of gamma rays with energies above 20 GeV.

Beyond probing the non-thermal Universe and cosmic accelerators, MACE telescope is also expected to address a range of cosmological topics such as constraining the intensity of Extragalactic Background Light (EBL) and strength of Intergalactic Magnetic Field (IGMF), cosmic ray electron spectrum, search for Dark Matter (DM) particles and some fundamental physics problems like Lorentz Invariance Violation (LIV), anomaly in photon-photon pair production and photon-Axion Like Particle (ALP) oscillations.