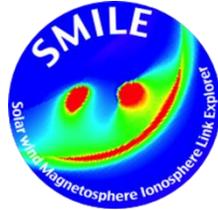
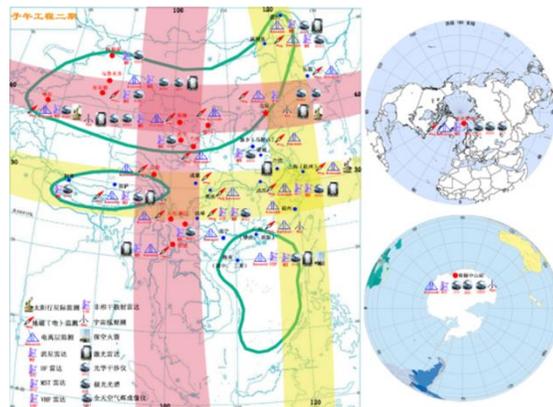


## New Space Weather Activities in China



### SMILE

Solar wind Magnetosphere Ionosphere Link Explorer (SMILE) is a novel self-standing mission to be jointly developed between European Space Agency (ESA) and the Chinese Academy of Sciences (CAS). It is dedicated to study the dynamic coupling of the solar wind with the Earth's magnetosphere in a global way never attempted so far. From a highly inclined elliptical Earth orbit, SMILE will obtain X-ray images of the magnetosheath and polar cusps simultaneously with UV images of the Northern aurora, while also carrying out in situ solar wind/magnetosheath plasma and magnetic field measurements. SMILE is a scientific precursor of space weather operational satellites, which are expected to forecast the arrival and impact of solar storms on the terrestrial environment in the future. SMILE has been approved by CAS-ESA, and will be launched in 2021.



### Chinese Meridian Project II

China has developed a ground-based program to monitor the geospace environment. The Meridian Space Weather Monitoring Project (Meridian Project) consists of 15 observing stations forming two orthogonal lines, one along the longitude 120°E and the

other along the latitude 30°N. This project has radio, optical, sounding rocket, geomagnetic (geo-electric) field monitoring instruments [Wang, C. (2010), New Chains of Space Weather Monitoring Stations in China, Space Weather, 8, S08001, doi:10.1029/2010SW000603.]. A new initiative to expand the Meridian Project to include space weather observing stations along the longitude 100°E and along the latitude 30°N , in an attempt to have full coverage of the entire space environment above the mainland China (the second phase of Meridian Project, or Meridian Project II). The Meridian Project II emphasizes especially the importance of 4 key regions: high latitude region (Polar Regions), middle latitude region (North China), low-latitude region (Hainan Region), and the third-polar of Earth (Tibet Plateau), and will employ powerful space weather monitoring instruments, including advanced modular ISR, large aperture LIDAR, SuperDAWN radar, solar radio heliograph instrument etc. Chinese Meridian Project II has been listed as one of the national key mega scientific infrastructure in 2016-2020 in China.

[ End ]