

Space Astrometry Telescope

---pathfinder for the future universe measurement

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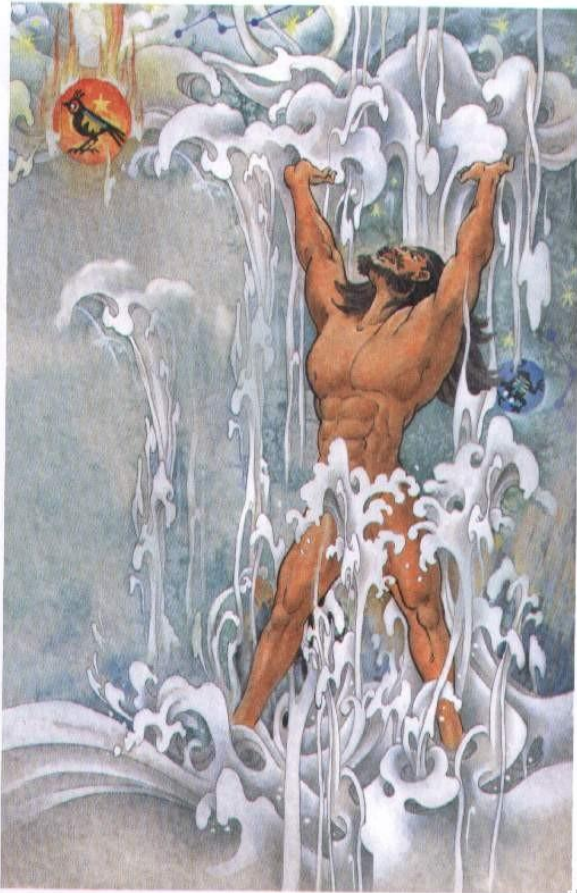
Introduction to NSSC

- ❖ **National Space Science Center**
Newly established on 7th, July 2011.
- ❖ In charge of overall planning for the country's space science to manage space science missions as a series
 1. Geo-space Double Star Exploration Program (DSP), CLUSTERS.
 2. Meridian Space Weather Monitoring Project
 3. Lunar Exploration Program (Chang'e)
 4. Mars Mission(Yinghuo-1)
 5. Manned Spacecraft Project
 6. Solar Polar Orbit Radio Telescope (SPORT)
 7. **Strategic Pioneer Project of Space Science**

Strategic Pioneer Project of Space Science

- ❖ HXMT, Hard X-ray Modulation Telescope, ~2014
- ❖ Kua'Fu mission, Space weather between sun-earth, ~2015
- ❖ Dark Matter Detection Satellite, ~2015
- ❖ SJ-10, space-microgravity and space-bioscience, etc., Lab. ~2015
- ❖ Quantum Teleportation Satellite, ~2016
- ❖ Some followed projects in next 5 years.
- ❖ Budget: 3.6 billion

量天尺： Universe Measurement



Space Astrometry Telescope

Scientific Motivation:

- ❖ Structure of the Milky Way and nearby galaxies
- ❖ Dynamics and Evolution of young star clusters
- ❖ Globular cluster systems in distant galaxies
- ❖ ~100 Cepheids, $< \pm 5\%$
- ❖ precision reference frame, ICRF quasars, $\sim 4 \mu$ as
- ❖ Incident event
- ❖ Complementary astrometry with Gaia
- ❖ Terrestrial Planet search, companion of NEAT, Kepler...
- ❖ Asteroids, planetary navigation

Interferometer in Sat. will be smooth like satin

- ❖ Technique: optical interferometer

baseline:~5m aperture:~40cm updated by the Manufacturing Engineering

- ❖ Wavelength: visible~ near infrared, Narrow-angle

- ❖ Precision: single measurement ~ 2 μ as

- ❖ Orbit: L2

- ❖ Launch: intergration rocket

- ❖ Precursor (Phase I): mini-interferometer for attitude measurement on spacecraft.

- ❖ Prototype (Phase II)

Thank you!

- ❖ Scientific goals should be condensed
- ❖ Welcome to join us for discussion!