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
  7. **Strategic Pioneer Project of Space Science**
Strategic Pioneer Project of Space Science

- 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
Quantianzhi: 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, \(~4\ \mu\) 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!