

Discovering the Sky at Long wavelengths (DSL) SULFRO: a 13 Micro/Nano-Satellite Constellation at L2 for Space Radio Observation

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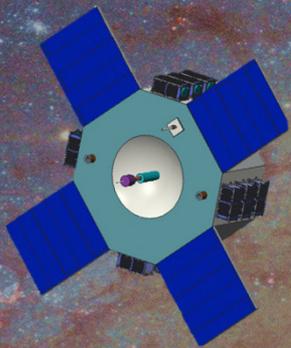
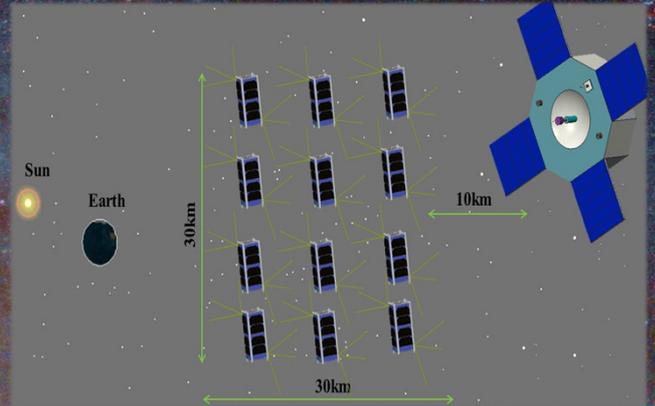
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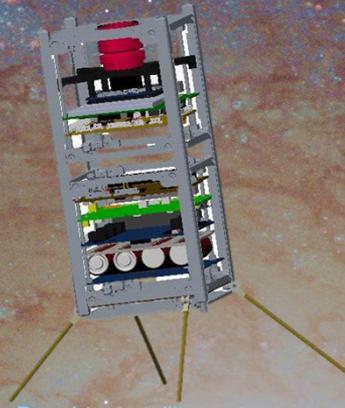
**** Edificio TEKEVER, Rua das Musas 3.30, 1990-113 Lisboa, Portugal

Mission and satellite system design

- The Low-Frequency Space Radio Observatory (SULFRO) aims to observe the ultra low-frequency space radio .
- The Space Ultra-Low Frequency Radio Observatory (SULFRO) concept is a constellation consisting of a micro-satellite Mothership and 12 Nanosatellites Daughters each equipped with an omni-directional antenna system that enables observing all the sky all the time at 3-100MHz frequency band.



Mother satellite system configuration before launch



Daughter satellite system

Key technologies

The system consisting of a constellation of 1 microsatellite and 12 nano-satellites being placed in a Lissajous or Halo orbit around the Sun-Earth L2 point, developed by Shanghai Engineering Centre for Microsatellites (SECM). Key technologies to be implemented:

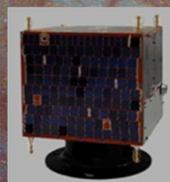
- ✓ Daughter satellite release and forming a formation
- ✓ Low speed Inter-Satellite Link (ISL) and data communication
- ✓ High speed ISL
- ✓ Micro-propulsion technologies
- ✓ Deep space Satellite-Earth data links and high-speed communication

Contributors Backgrounds and Experiences

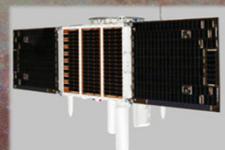
- ✓ Micro-satellite: Shanghai Engineering Centre for Microsatellite
- ✓ Nano-satellite: GOMSpace
- ✓ ISL Communication: TEKEVER



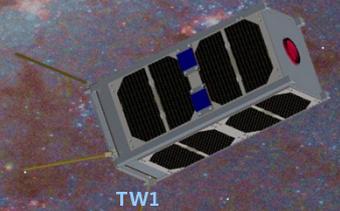
CX-1
weight : 88Kg
Launch time : 2003.10.21



BX-1
weight : 40Kg
Launch time : 2008.9.25



CX-1(02)
weight : 203Kg
Launch time : 2008.11.05



TW1
weight : 2Kg ~ 3Kg
To be launched in 2015