Implementation of a Space Radio Observatory With a Micro/Nano Satellite Constellation

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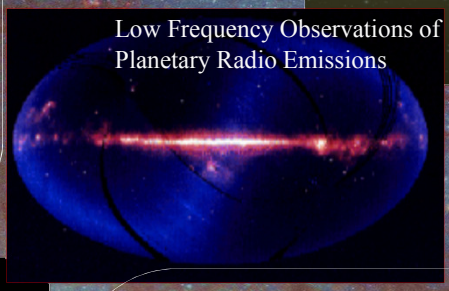
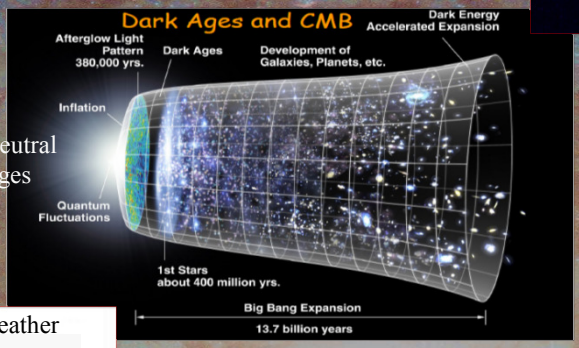
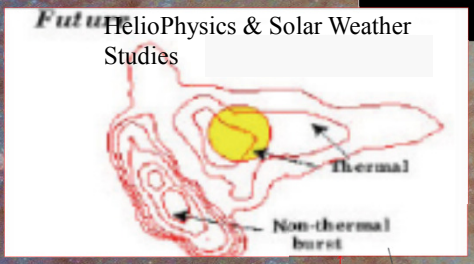
Major Topics

- The Low-Frequency Space Radio Observatory (LF-SRO) aims to observe the low-frequency space radio (0.1-70 MHZ).
- LF-SRO consists of 8-10 daughter NanoSat and a mothership MicroSat, passively formation flying in a Lissajous orbit around the second Sun-Earth Lagrange point (L2)
- LF-SRO is directly derived from the SURO-LC concept that was proposed as an ESA S-Class mission in 2012.





21-cm spin temperature of neutral hydrogen during the Dark Ages

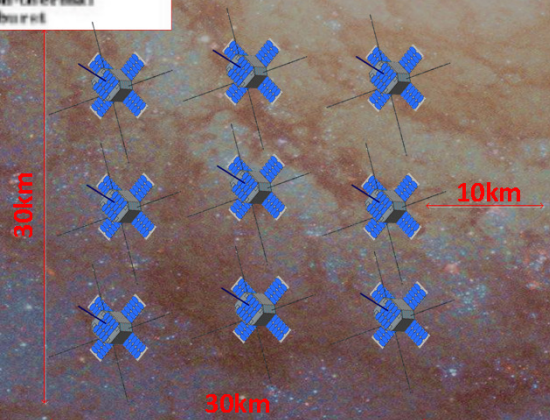


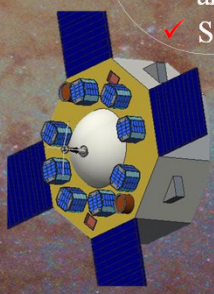
Daughtership and Mothership

LF-SRO will inherit the technologies and products from BX-1 platform and CX-6 platform developed by Shanghai Engineering Centre for Microsatellites (SECM). Key technologies to be implemented:

- ✓ Sun-Earth L2 orbit design
- ✓ DaughterSat release and formation
- ✓ Inter-Sat link & data communication
- ✓ Satellite constellation maintenance
- ✓ Micro-propulsion technologies
- ✓ Deep space Satellite-Earth data links and high-speed communication
- ✓ Satellite EMC, … …

BX-1(40 kg)





CX-6
Platform: 460 kg
PL: 440 kg