



CLUSTER Status

Press Event
16th February, 2001
ESA Headquarters

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Dep. Project Manager



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<http://sci.esa.int/cluster>

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The STSP Cornerstone

- With Cluster entering the Mission Phase proper, the first Cornerstone of the Horizon 2000 plan of ESA's Scientific Directorate, has been completed
- The Solar Terrestrial Science Programme (STSP) comprises the SOHO and Cluster missions
- Its main goal is to explore the Sun-Earth connection, specifically the interaction of the Sun on the Earth magnetosphere
- This is accomplished by SOHO and Cluster working in close synergy and making observations in proximity of the Sun and of the Earth magnetosphere regions



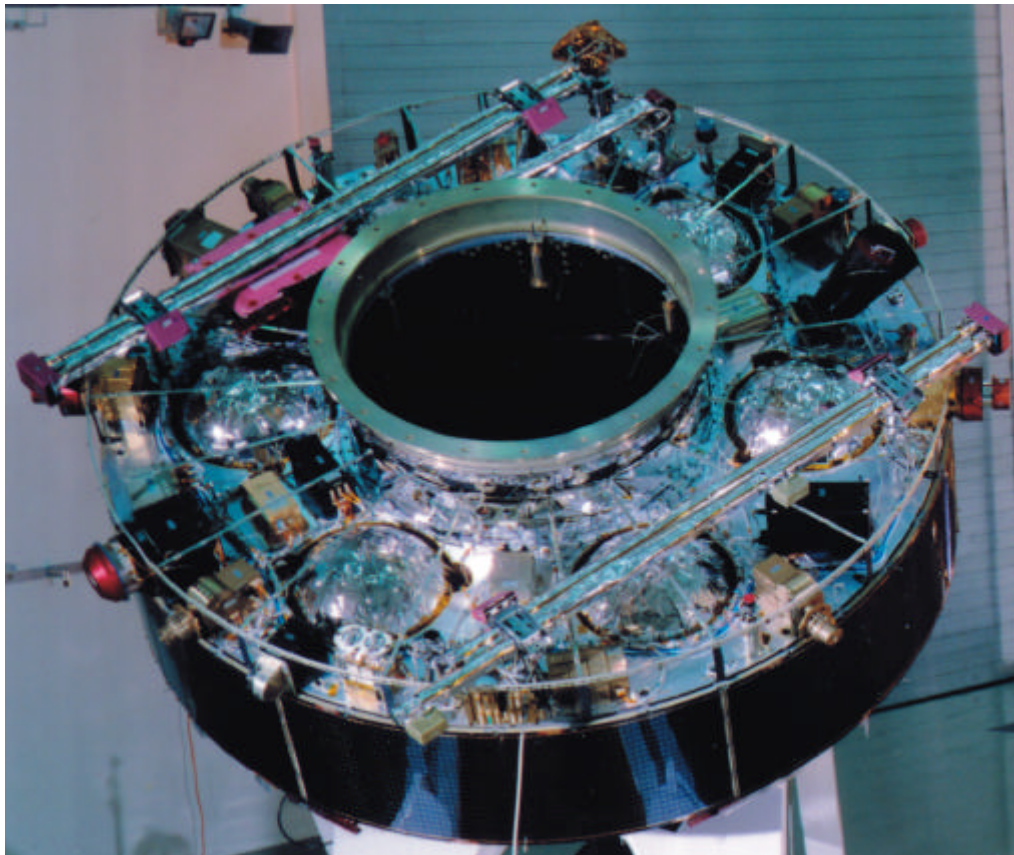
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The Spacecraft

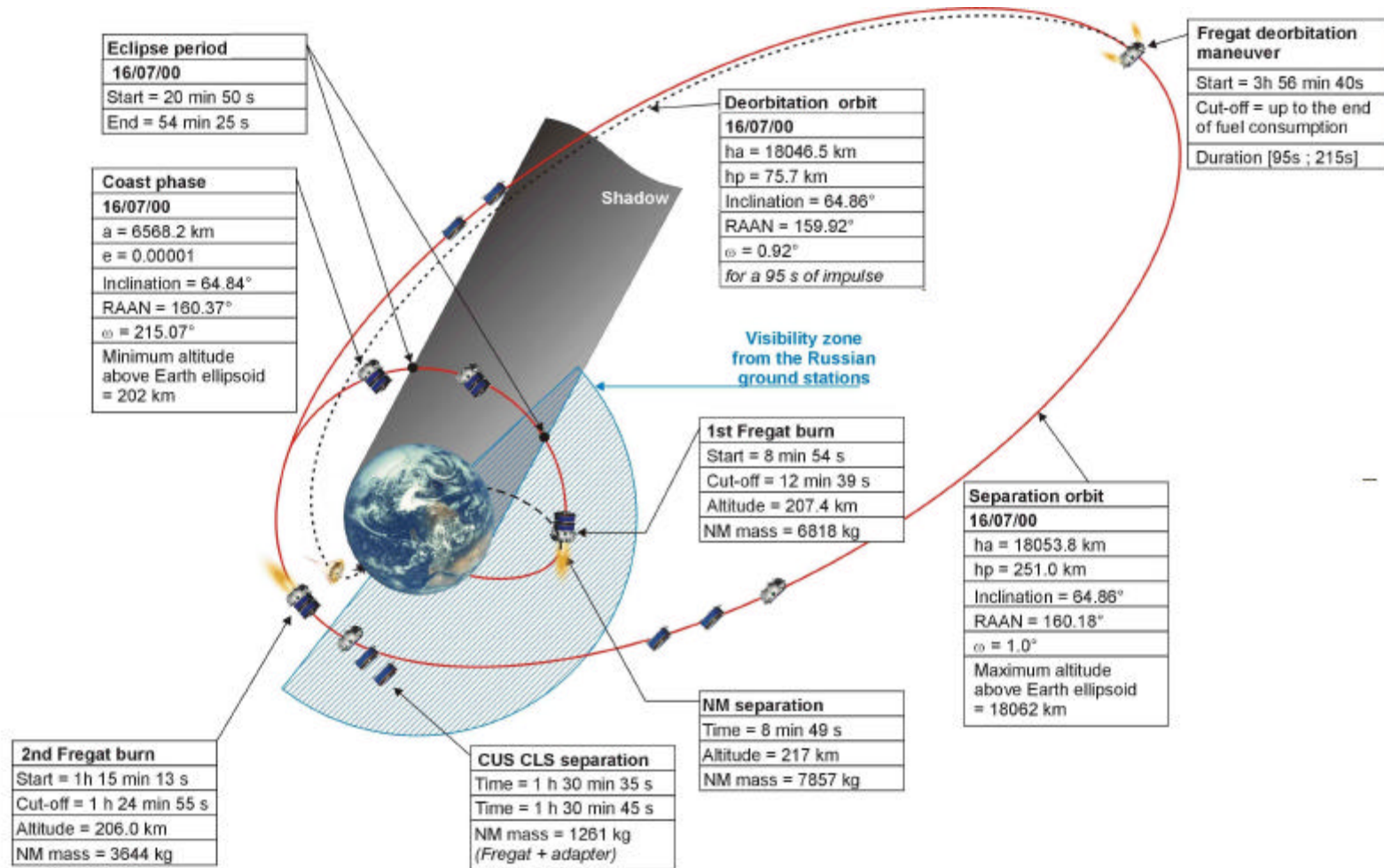


Key Parameter

Spin-Rate:	15 rpm
Spacecraft Diameter:	2.9 m
Spacecraft Height:	1.3 m
Dry Mass:	550 Kg
Propellant Mass:	650 Kg
Mass allocated to Payload:	72 Kg
Solar Array Power:	224 W
Silver Cadmium Battery Capacity:	80 AH
Power allocated to Payload:	47 W
Telemetry Down Link Bit Rate:	2 to 262 kbit/s



Launch & Early Orbit Phase



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Separation Pictures



Visual Monitoring Camera (VMC) Images



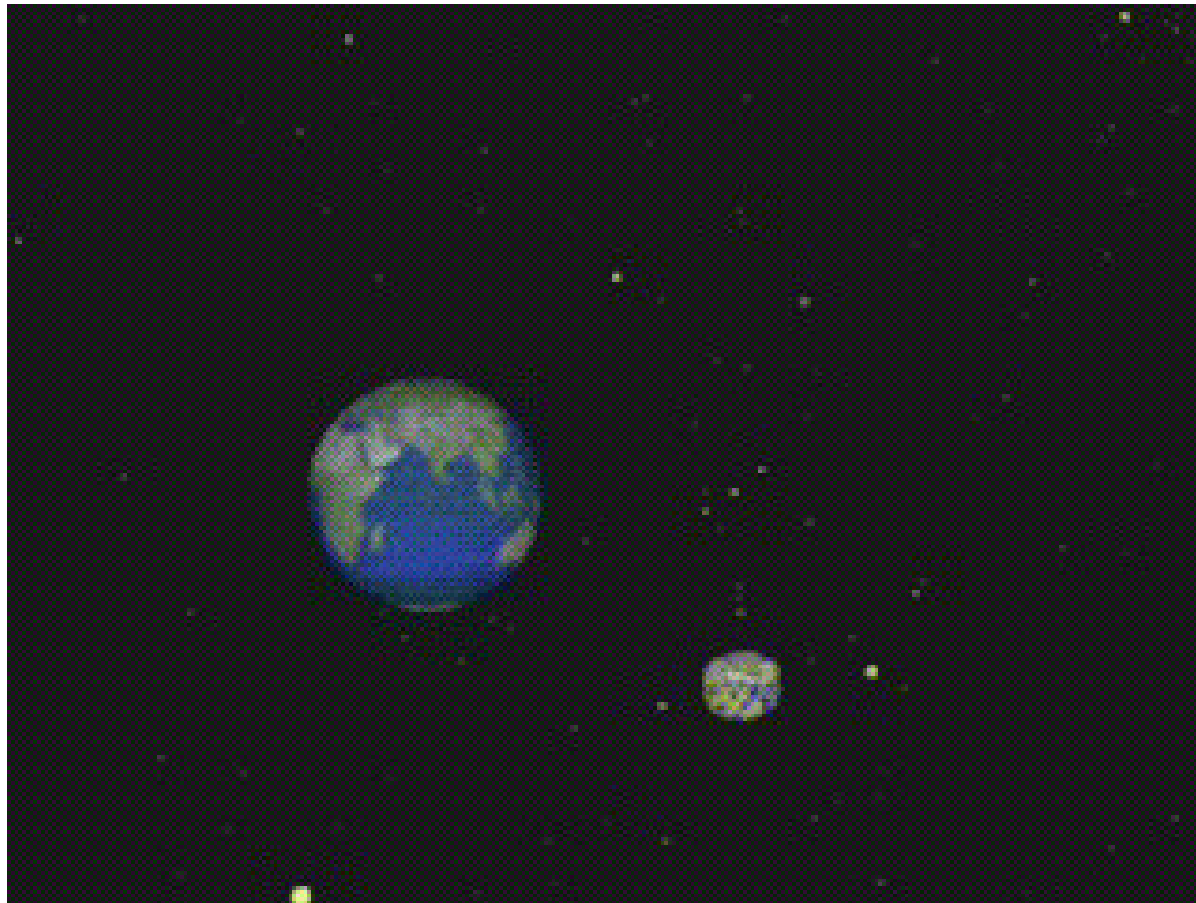
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LEOP Orbital Manoeuvres





The Current Orbit

- The four spacecraft are currently flying in a highly elliptic orbit with the following characteristics:
 - perigee: 19.000 km
 - apogee: 119.000 km
 - inclination: 90°



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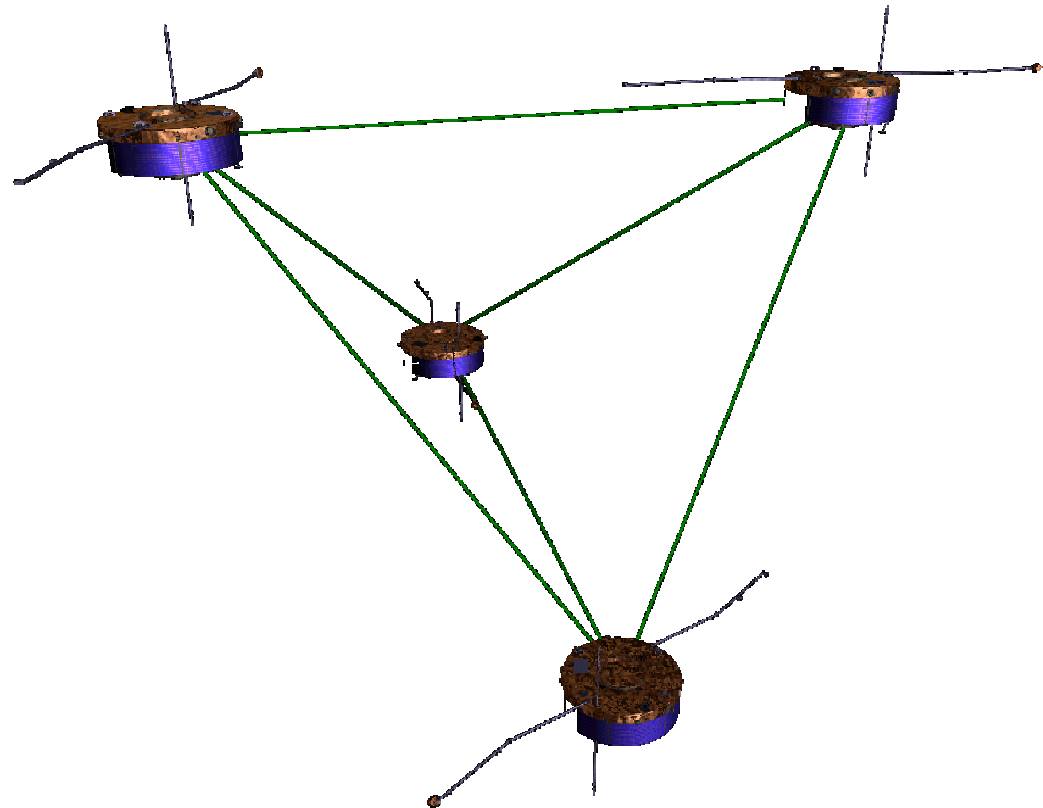
The Tetrahedron Configuration

- Minimum: 200 km

- Paris - Lille

- Maximum: 19000 km

- Paris - Sydney



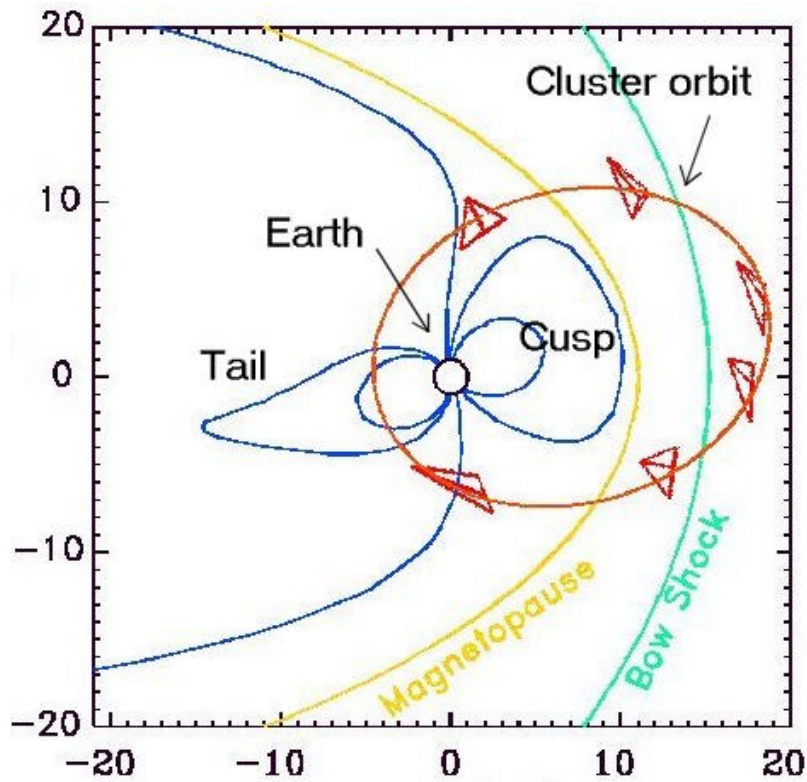
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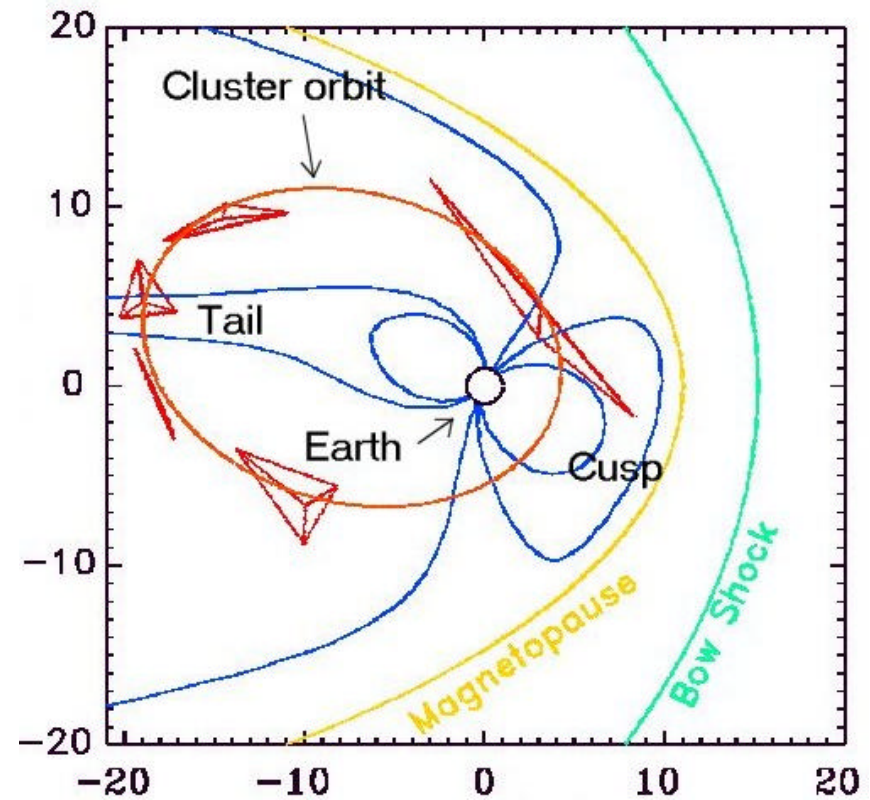
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The Magnetosphere



Cusp crossing
(February)



Tail crossing
(August)



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The Status

- The four spacecraft have recently successfully completed the subsystem and experiment commissioning phase and the interference campaign
- The Mission Commissioning Results Review, held at ESA headquarters on 1st February, has given the go-ahead for the start of the Mission Operations Phase
- All subsystems perform nominally
- Margins are available in fuel, power and radiation budgets
- Potential mission extension or increased number of operations in the areas of interest are possible



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