

Five-probe mission to study space storms

In a bid to solve the enduring mystery of what triggers magnetic storms in the Earth's atmosphere – visible as a brightening of the aurora borealis or northern lights – NASA's THEMIS mission will send into orbit five identical microsatellites, the most spacecraft ever launched by a single rocket

THEMIS: Satellites observe about 30 storms during two-year mission

Aurora borealis

Earth

Instrument booms
Up to 20m long,
deploy in orbit

Mission named after
Greek goddess of justice.
Cost: \$200 million

Only four
probes needed,
fifth is a spare

Spacecraft
Dishwasher-sized body
contains 11 instruments –
telescopes, electric field
sensors, magnetometers
and electrostatic analyzer

Earth

Magnetosphere

Satellites

Satellites placed in staggered orbits will line up with one another and ground stations on Earth every four days in order to pinpoint origin of magnetic storms



The source of Earth's most dynamic auroras has eluded scientists for over 30 years