

STEREO mission to study solar blasts

NASA's Solar Terrestrial Relations Observatory consists of two nearly identical satellites which, when placed in their final orbits, will give the first-ever three-dimensional view of the sun. This is critical to understand **Coronal Mass Ejections** – the most violent explosions in the solar system

STEREO INSTRUMENTS

SECCHI: Studies 3-D evolution of **CMEs**

PLASTIC
Measures high-energy particles

IMPACT
Plots high-energy particles

S. WAVES
Trace radio disturbances

MISSION: Launched Oct 25. Probes will use Moon's gravity to move apart – spacecraft "A" orbiting ahead of Earth and "B" behind. Resulting offset will allow stereoscopic view of sun

Stereo will also improve early-warning system against CMEs

Probe "A"

Radiation belts

SOLAR WIND

Coronal Mass Ejection: Sun blasts billions of tonnes of material at up to 800km/sec

Magnetosphere: Normally deflects atomic particles in solar wind

Sources: NASA Pictures: NASA, AP
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Probe "B"

Solar storm: CMEs distort Earth's magnetic field. Backlash of charged particles trapped in radiation belts generates massive voltages that can damage satellites and power grids

