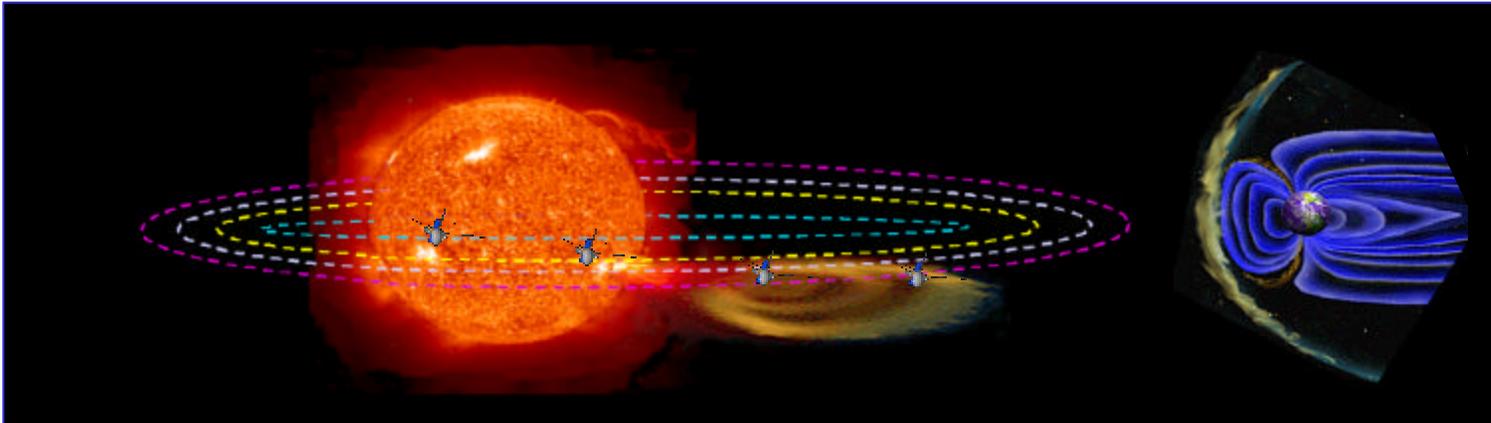




Living With a Star Sentinels



Fundamental Question:

- Discover, understand and model the connection between solar phenomena and magnetospheric/ionospheric disturbances.

Why is this question important:

- Provide connection between the solar and geospace elements of the LWS program, allowing a system approach.

Science Objectives:

- Determine how the global character of the inner heliosphere changes with time.
- Understand how geo-effective structures (CMEs, shocks, CIRs) propagate and evolve from the Sun to 1 AU.
- Discover what solar dynamic processes are responsible for the release of energetic particles and geo-effective events.
- Constrain heliospheric models.

Possible Mission Scenario:

- Four identical spinning spacecraft in ecliptic orbits (0.5 – 0.95 x 0.72 AU).
- Identical fields and particles instrumentation on all four s/c.
- Single medium class ELV launch with Venus gravity assist.
- Telemetry requires infrequent, bi-weekly DSN contact.

Measurement Strategy:

- Magnetic field, solar wind particle distribution, energetic particle and radio wave measurements.
- Longitudinally distributed and concentrated observations.
- Radially distributed observations.

Technological Requirements:

- No new technologies are required.
- Miniaturization of electronics desired.