

# **FULL-SUN DOPPLER-MAGNETIC IMAGING**

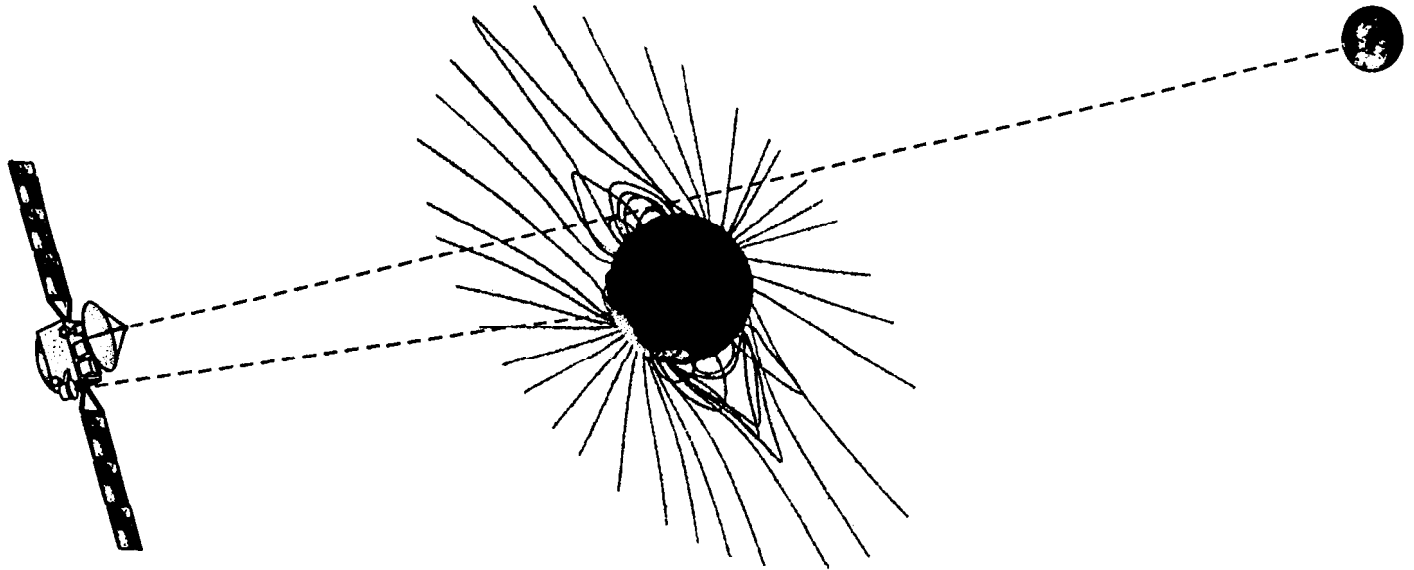
**Alexander Ruzmaikin (JPL), Alessandro Cacciani (U. La Sapienza),  
Philip Moynihan (JPL), Arthur Vaughan (JPL)**

**and**

**MagSonas Team**

# SCIENCE

We propose a two year mission to observe Magnetic Structures on and around the Sun (**MagSonas**). Launched in 2001 and gradually increasing its angular separation from the Earth, the spacecraft goes behind the Sun. It carries a Doppler-magnetograph to image the solar surface throughout the mission.



Our goal is to understand solar magnetic fields: their generation inside the Sun and appearance on its surface, and their influence on the corona and solar wind. We plan to

- *Probe the deep solar interior and to observe the evolution of activity regions on the surface by using simultaneous **measurements from both sides of the Sun**. This **requires** full-Sun magnetic-Doppler imaging made by combining our observations of the other side of the Sun with Earthside observations such as IRIS.*
- *Investigate Coronal Mass Ejection buildup and acceleration. We will detect weak magnetic field shearing by stereo measurements from the spacecraft and the Earth. When the spacecraft is above the solar limb we will see the emergence of magnetic flux below CMES observed from Earthside by SOHO.*