

# ISSI international team on Coronal Magnetometry

*Building tools for discovery*

First meeting: February 25 - March 1

# Team Goals

**The overarching goal of this international team will be to develop the FORWARD code to predict multi-wavelength magnetometric observables for various MHD models, and to consider how observations at the different wavelengths can be combined to effectively choose between models and ultimately reconstruct the three-dimensional coronal field.**

We will achieve this goal in three steps:

- 1) Expand FORWARD codes to radio and visible wavelength magnetometry: we have successfully modeled the Stokes vector as observed in the infrared by the CoMP telescope. We will further interface the FORWARD codes with existing radio ray-tracing codes, as well as with code modeling visible (green line) polarimetry.
- 2) Obtain predicted observables at a range of wavelengths for MHD models of the global coronal magnetic field (e.g. from potential-field-source-surface extrapolations), and from models of active regions and prominences.
- 3) Compare these predictions to existing data (e.g., CoMP, OFIS, CorMag), and inter-compare observables for different wavelengths. Consider how different observables might be combined to constrain the coronal field most effectively, taking full advantage of capabilities of future instruments such as ATST, COSMO, FASR, and potentially other large coronal magnetometric telescopes around the world or in space.

# Expected Output

FORWARD code expansion -- available via SolarSoft

Team publications likely to arise from data/model comparisons,

A review of expectations for coronal magnetometric assets to be deployed over the next five years, and a consideration of the next-generation of space-based magnetometric assets. (e.g., policy white paper)

ISSI workshop? (and book) overviewing the field of Coronal Magnetometry, describing the state of the art in instrumentation, data, models (MHD and atomic physics), inversion techniques, etc.