

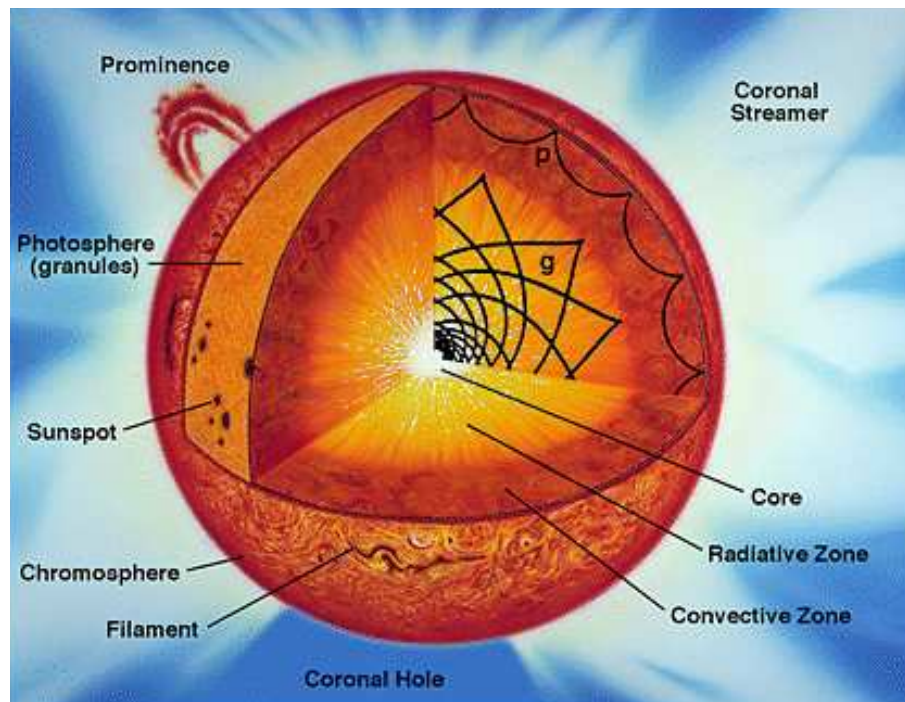
European Solar Magnetometry Network

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WHY?



Solar magnetism

- generated by enigmatic dynamo processes in the solar interior
- organised into highly complex patterns of solar activity
- dominates the structure of the outer solar atmosphere
- regulates the solar wind
- affects the extended heliosphere

European Solar Magnetometry Network

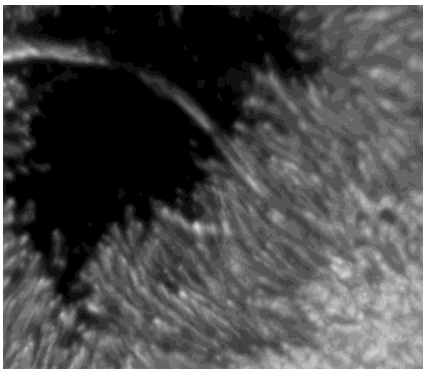
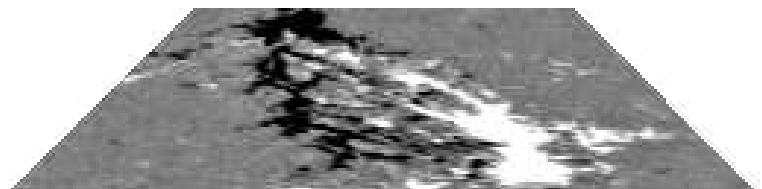
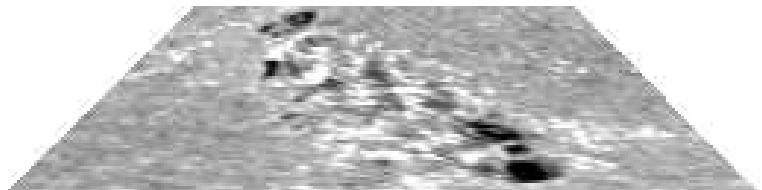
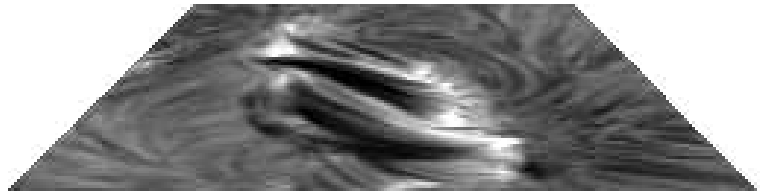
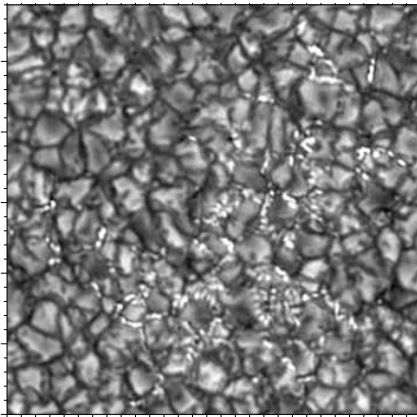
WHAT?

- *Science Objectives*

- chart the topology of solar magnetic structures at all scales of emergence at the solar surface
- identify the basic processes underlying the dynamical behaviour of solar magnetic structures
- measure solar activity patterns to constrain the solar dynamo mechanism

- *Implementation Objectives*

- improve solar magnetometry to unprecedented angular resolution and sensitivity
- obtain comprehensive high-resolution solar magnetometry data in concert with space data
- achieve observationally constrained numerical modelling



European Solar Magnetometry Network

HOW?

- *European network*

Sterrekundig Instituut, Utrecht

Instituto de Astrofísica de Canarias, La Laguna

Osservatorio Astronomico di Capodimonte, Napoli

Institutt for Teoretisk Astrofysikk, Oslo

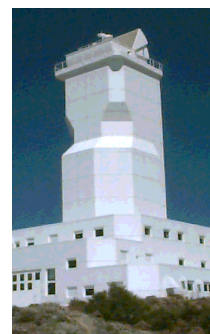
Research Station for Astrophysics, Stockholm

Sonnenobservatorium Einsteinturm, Potsdam

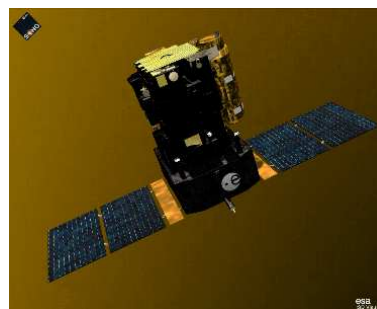
Observatoire de Paris, Meudon

Solar System Division, ESA Space Science Department

- *European telescopes*



- *European space mission*



(NASA too)

- *European expertise*

- phase-diverse speckle interferometry
- Stokes vector magnetometry
- polarised radiative transfer
- numerical (M)HD simulation