EST Solar Contest - The Sun at a glance

Suggested topics

Participants should prepare an infographic about any aspect of solar research, solar observations, the European Solar Telescope, or Sun-Earth relations. The topic is free. However, we have compiled an extensive list of possible subjects as examples of the wide variety of themes that can be worked out by the participants.

The Sun as a star

- Physical properties
- Chemical composition
- Luminosity
- Rotation
- Nuclear reactions
- Temperature structure
- Heliosphere
- Life cycle
- The future of the Sun

The Sun as a physics laboratory

- Gravity
- Nuclear reactions
- Energy transport
- Convection
- Radiation
- Conduction
- Electromagnetic radiation
- Solar spectrum
- Black body emission
- Spectral lines
- Polarisation
- Magnetic fields
- Magnetic flux
- Zeeman effect
- Hanle effect
- Magnetic reconnection
- Evershed flow

Sun structure

- Overview
- Nucleus
- Radiative zone
- Convective zone
- Tacholine
- Atmosphere

Solar atmosphere

- Overview
- Photosphere
- Chromosphere
- Transition Region
- Corona
- Solar wind
- Atmospheric heating

EUROPEAN SOLAR TELESCOPE COMMUNICATION OFFICE
Instituto de Astrofísica de Andalucía, Glorieta de la Astronomía s/n, 18008 Granada, Spain
+34 958 230 672, est-communication@iaa.es

Solar magnetic fields

- Active regions
- Magnetic flux tubes
- Magnetic network
- Internetwork magnetic fields
- Local dynamo
- Magnetic flux emergence

Solar features

- Coronal loops
- Coronal rain
- Faculae
- Fibrils
- Filaments
- Granulation
- Helmet streamers
- Intergranular lanes
- Magnetic bright points
- Magnetic network
- Polar regions
- Pores
- Prominences
- Quiet Sun
- Quiet Sun internetwork
- Solar tornados
- Spicules
- Sunspots
- Sunspot light bridges
- Sunspot penumbra
- Sunspot umbra
- Umbral dots
- Umbral flashes
- X-Ray polar jets

Solar eclipses

- Total eclipse
- Saros cycle
- Flash spectrum

The eruptive Sun

- Coronal mass ejections
- Ellerman bombs
- Filament eruptions
- Flares
- Microflares
- Nanoflares
- UV bursts
- White light flares

Solar cycle

- Overview
- Active regions
- Activity belt
- Wolf number
- Hale's polarity law
- Butterfly diagram
- Maunder minimum
- Origin - Solar dynamo

Space weather

- Flares
- Coronal mass ejections
- Solar wind
- Geomagnetic storms
- Auroras
- Effects on Earth

Sun-Earth relations

- Sun as an energy source
- The solar constant
- Milankovic cycles
- Habitability zone
- Photosynthesis

EUROPEAN SOLAR TELESCOPE COMMUNICATION OFFICE
Instituto de Astrofísica de Andalucía, Glorieta de la Astronomía s/n, 18008 Granada, Spain
+34 958 230 672, est-communication@iaa.es

Solar observatories

- Coimbra Observatory
- Debrecen Observatory
- Greenwich Observatory
- Kanzelhöhe Observatory
- Kodaikanal Observatory
- Lomnicky Stit Observatory
- Meudon Observatory
- Osservatorio Astronomico di Catania
- Ossservatorio Astronomico di Roma
- Pic du Midi Observatory
- Roque de los Muchachos Observatory
- Teide Observatory

European Solar Telescope

- Overview
- Scientific objectives
- New technologies
- Instrument suite
- Site selection
- Consortium

Solar telescopes

- Dutch Open Telescope
- GREGOR
- Einsteinturm
- Swedish Solar Telescope
- THÉMIS
- Vacuum Tower Telescope

Space missions

- Solar Orbiter
- SOHO
- SUNRISE
- Hinode
- Solar Dynamics Observatory
- Parker Solar Probe

Telescope systems

- Types of solar telescopes
- Optical system
- Primary mirror
- Secondary mirror
- Heat rejecter
- Optical transfer system
- Building
- Dome
- Coelostat

Solar instruments

- CCD camera
- sCMOS camera
- Interference filter
- Spectrograph
- Polarimeter
- Fabry-Pérot interferometer
- Lyot filter
- Coronograph

Solar observations

- Getting rid of heat
- Seeing
- Minimising seeing
- Adaptive optics
- Spectroscopy
- Spectropolarimetry
- Magnetogram
- Dopplergram

EUROPEAN SOLAR TELESCOPE COMMUNICATION OFFICE
Instituto de Astrofísica de Andalucía, Glorieta de la Astronomía s/n, 18008 Granada, Spain
+34 958 230 672, est-communication@iaa.es

- Common chromospheric lines
- Common photospheric lines
- Halpha line
- Ca II H line
- Helioseismology

Famous Solar Physicists

- Angelo Secchi
- Annie Maunder
- Bernard Lyot
- Cecilia Payne
- Christoph Scheiner
- Edward Maunder
- Galileo Galilei
- George Ellery Hale
- Gustav Spörer
- Heinrich Schwabe
- Isaac Newton
- Johannes Fabricius
- Johannes Kepler
- John Evershed
- Joseph Norman Lockyer
- Joseph von Fraunhofer
- Juan Valderrama y Aguilar
- Jules Janssen
- Lorenzo Respighi
- Nicolaus Copernicus
- Pietro Tacchini
- Richard Carrington
- Rudolf Wolf

Solar history

- Ancient observatories
- First solar photograph
- First solar film
- First observation of a CME
- First observation of a flare

Societal aspects

- The Sun in ancient cultures
- Solar temples
- Mythology
- Legends
- Beliefs
- Religion
- Artistic representations

EUROPEAN SOLAR TELESCOPE COMMUNICATION OFFICE
Instituto de Astrofísica de Andalucía, Glorieta de la Astronomía s/n, 18008 Granada, Spain
+34 958 230 672, est-communication@iaa.es