

THE SOLARNET PROJECT

M. Collados

Instituto de Astrofísica de Canarias



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1st SOLARNET School
Wroclaw 24 Mar- 4 Apr/2014



SOLARNET

EU-funded project aimed at a better and wider usage and profit of present European facilities in the field of high-resolution solar physics with the goal of getting prepared for the operation of the next-generation European Solar Telescope



- **Period:** 1 April 2013 – 30 March 2017
- **EU-Budget:** 6 M€
- **32 partners:**
 - 24 EU research institutions
 - 6 EU private companies
 - 2 USA research institutions
- **Coordinator institution:** IAC



PARTNERS

IAC	ES	UCL-MSSL	UK	UoB	UK
KIS	DE	AISAS	SL	CNR-INO	IT
INAF	IT	AIASCR	CZ	HANKOM	NL
CNRS	FR	HVAR	CR	CIMNE	ES
UToV	IT	ROB	BE	SRS	IT
MPG	DE	IGAM	AU	PNSensor	DE
UiO	NO	UWR	PO	WO	FR
AIP	DE	UCAL	IT	TECNALIA	ES
SU	SE	WU	NL	NSO	USA
UPS	FR	IRSOL	SW	CfA-SAO	USA
QUB	UK	IAA-CSIC	ES		



From present European ground-based facilities ...



VTT 70 cm
(Germany, 1989) – OT



THEMIS 90 cm
(France-Italy, 1996) – OT



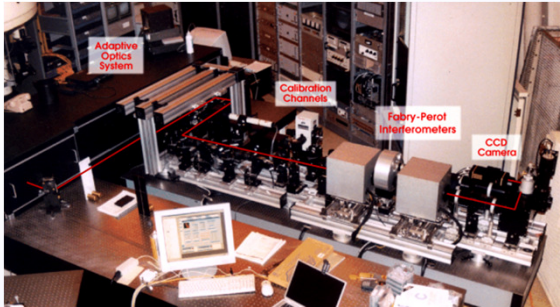
SST 100 cm
(Sweden, 2002) – ORM



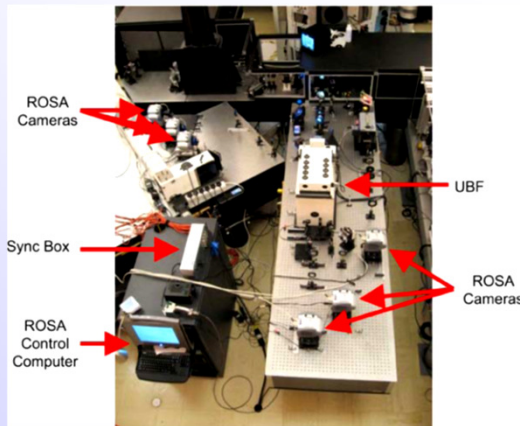
GREGOR 150 cm
(Germany, 2012) – OT



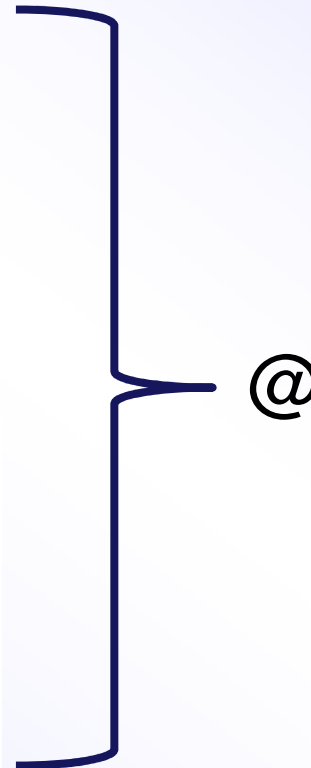
From present European ground-based facilities ...



IBIS – Italy



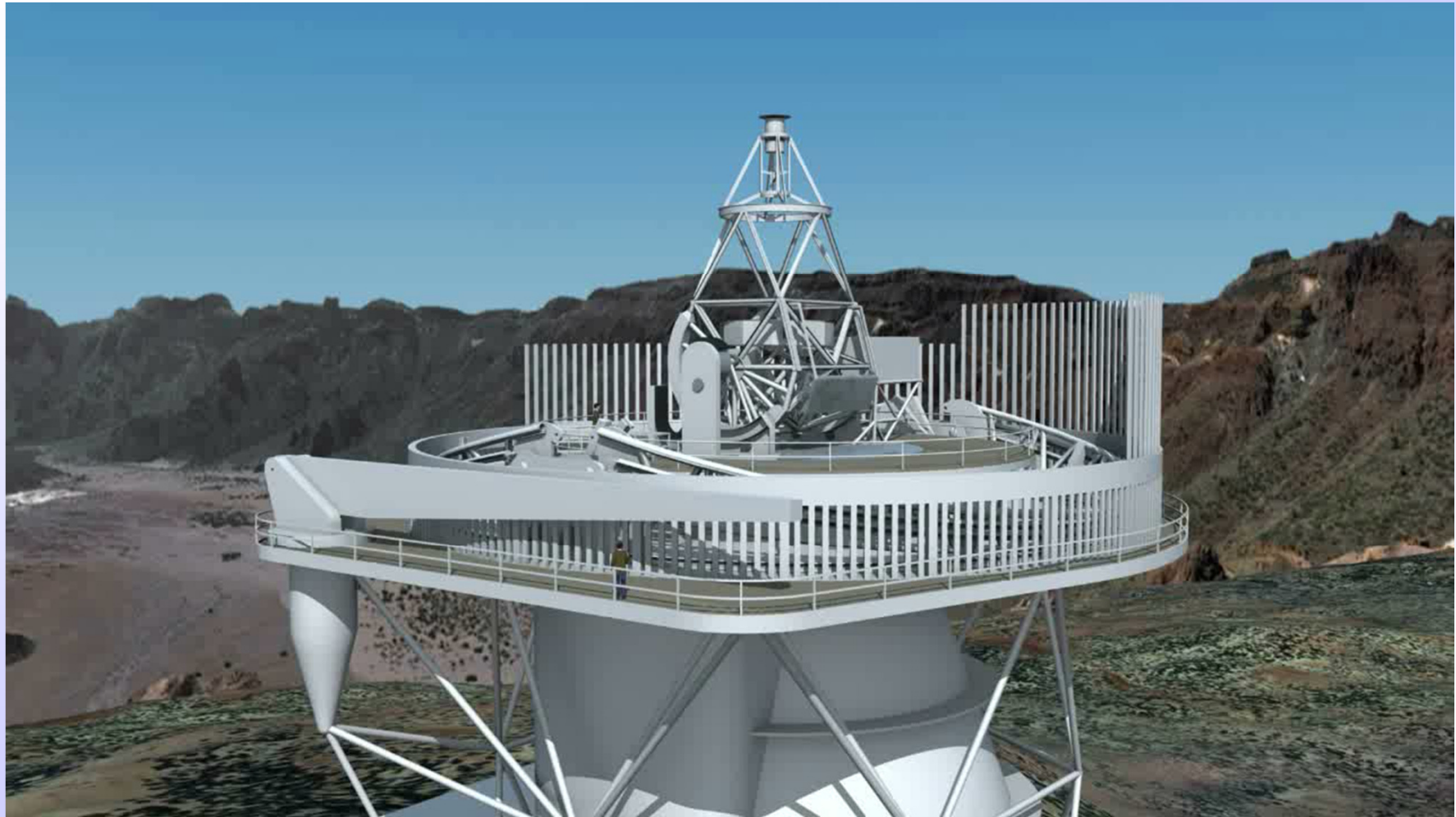
ROSA – UK



DST (NM, USA)



... to the European Solar Telescope, EST.



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SOLARNET TASKS

1. Schools, meetings, and student mobility
2. Telescope operation and access
3. Data handling, storage and retrieval
4. H/W development
5. Turbulence evaluation, minimization and correction
6. Synoptic telescopes network
7. Transfer of knowledge to industry



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1a. Schools

2014/Q1: *Introduction to solar physics. Radiative processes in the Sun and the stars* – Poland UWR

2014/Q4: *Ground- and space- based instruments. Methods in high resolution and synoptic solar physics* – Slovakia AISAS

2015/Q2: *Solar magnetic fields: modeling and measuring techniques. Polarization as a tool to study the Sun, the Solar System, and beyond* – Spain IAA-CSIC

2016/Q1: *MHD waves and oscillations in the solar atmosphere, Heating mechanisms in the solar atmosphere* – UK QUB

2016/Q4: *Solar MHD and magnetic reconnection theory. Solar eruptive events: observations and modelling* – UK MSSL/UCL



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1a. Meetings

2013: *Synergies between ground- and space-based solar research* – Norway UiO

2014: *Solar and stellar magnetic activity* – Italy INAF

2015: *Helio- and astero-seismology* – Germany KIS

2016: *The physics of the Sun from the interior to the outer atmosphere* – Spain IAC

Synergies between ground and space based solar research
1st SOLARNET - 3rd EAST/ATST meeting
Oslo, 5-8 August 2013



The goal of this workshop is to foster collaborations between ground and space solar projects. This workshop is expected 1) to provide a forum to discuss the use of current and future observational solar facilities, and how to optimize their scientific returns; 2) to identify the potentially paradigm-shifting observations that will become possible with the next generation ground- and space-based solar telescopes and their advanced instrumentation; 3) to foster collaborations between researchers working at the development of ground- and space-based projects and creation of synergies between research programs at different wavelength bands.

SOC		LOC	
Mats Carlsson (Chair)	Bernhard Fleck	Ada Ortiz Carbonell (Chair)	Thomas Golding
Tom Berger	Alexandra Trüschler	Mats Carlsson	Ramon Soullin
Gianna Cossu	Francesca Zuccarelli		
Jonathan Cirtain			



1c. Student mobility

- Funds for short stays (up to 2-3 months) of a total of 16 young researchers at another institution
- Call permanently open
Web page: www.solarnet-east.eu
- 2 evaluations per year
- Next deadline: 15 Sept for period
1 Jan – 30 Jun 2015



The project is supported by the European Commission's FP7 Research Programme for the period April 2013 - March 2017 under the Grant Agreement number 212436.

Mobility of Young Researchers

www.solarnet-east.eu

SOLARNET brings together and integrates the major European research infrastructures in the field of high-resolution solar physics, in order to promote their coordinated use and development. Networking activities, access to first-class infrastructures and joint research and development activities will be carried out under this major collaboration, where all pertinent European research institutions are involved, as well as private companies and other non-EU organizations. SOLARNET achievements will be of paramount relevance to contribute towards the realisation of the European Solar Telescope (EST).

SOLARNET is pleased to announce the aperture of its Mobility of Young Researchers Programme. This Programme aims to contribute to the professional development of researchers at their first steps of their careers, by offering short stays (up to 3 months) preferably at one of the SOLARNET member institutions, public or private entities. Other host institutions from anywhere will be also considered, as far as they are aligned with the scientific interests and objectives of this European initiative. It is expected also that this Programme will promote the integration of this new generation of researchers into the European solar physics community with long-lasting effects.

Applications from young researchers are welcome, and can be submitted at any time until March 15th 2016. Intermediate deadlines are issued to allow the evaluation of applications received until a specific date. For the aperture of the programme a special call is issued:

June 30th 2013
FIRST DEADLINE
for stays to be carried out within the period
July 1st – Dec 31st 2013

Following deadlines will be September 15th and March 15th, for stays within the period Jan-June and July-Dec respectively. Last deadline will be March 15th 2016.

There are up to 4 grants available for this first period of visits. EC funds will cover travel and accommodation costs for stays from a minimum of 1 month to a maximum of 3 months. Travel costs will be supported up to 600 €/fellow, and accommodation and subsistence costs up to 200 €/week.

Interested applicants are invited to complete the on-line form available at: www.solarnet-east.eu (application forms >> Mobility of Young Researchers).

A motivation letter and a brief summary of the proposed work at the host institution, together with a brief CV, need to be attached to the on-line form. Applicants are encouraged to contact the host institution in advance.

More information:
www.solarnet-east.eu solarnet-MEC@iac.es



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2. Telescope operation and access

- Observing periods open to external researchers

Proposals evaluated by EAST TAC

2013/14: GREGOR 0/0 (66) days;

VTT 12/12 (55) days;

SST 40/40 (85) days;

THEMIS 30/44 (85) days;

IBIS/ROSA@DST: 17/17 (80) days



2. Telescope operation and access

- Service mode: IBIS/ROSA@DST
- Coordinated observations with other telescopes



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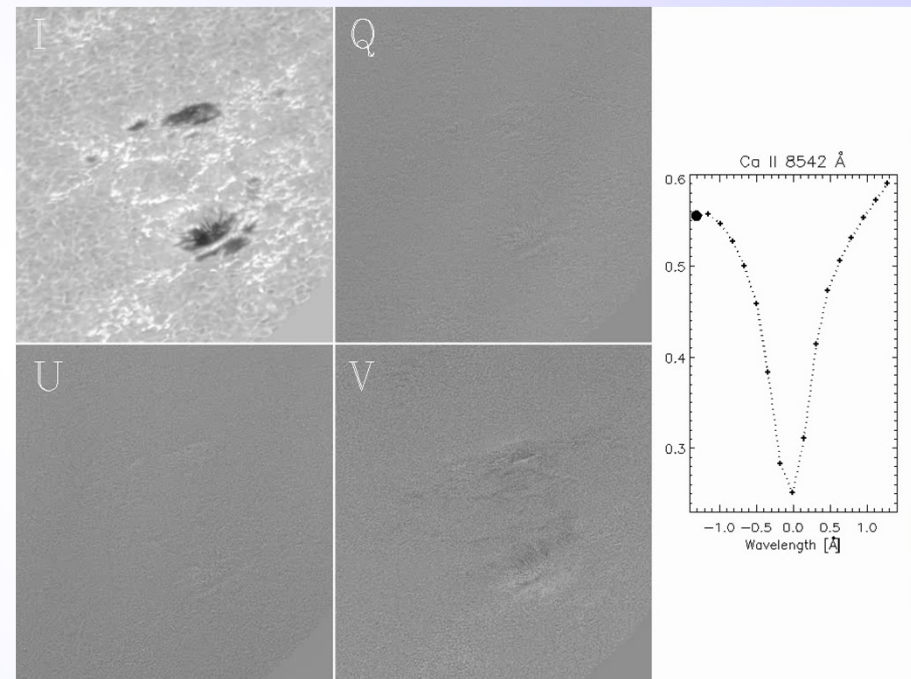
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3a. Data handling, storage and retrieval

- Data pipeline development.
- Data storage in accordance to virtual observatory rules
- Generation of a prototype archive using ground-based data, accessible and manageable through Virtual Observatory tools



Courtesy of de la Cruz Rodríguez



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4. H/W Development

- AO for THEMIS
- Large etalon prototype (IBIS?)
- Microlens-fed spectrograph prototype (SST)
- IFU prototype (GREGOR)
- Fast Solar Polarimeter (VTT)

