

	
<b>Project (Grant) Number:</b>	824135
<b>Project Acronym:</b>	SOLARNET
<b>Project title:</b>	Integrating High Resolution Solar Physics

<b>Document Details</b>	
<b>Document Title</b>	Minutes of the 1 <sup>st</sup> SOLARNET Forum for telescopes and databases
<b>Prepared by</b> (Institution's Name):	Stockholms Universitet (SU)
<b>Work Package (WP) Number &amp; Title</b>	WP2 – Coordination for improved exploitation of solar physics infrastructure
<b>Deliverable Number &amp; Title:</b>	D2.4 - Minutes from Forum Meeting 1
<b>Serial Number of Deliverable:</b>	D10
<b>Document Code</b> (inserted by project office)	D2.4_Version 1.0
<b>File Name</b> (inserted by project office)	SOLARNET_D2.4_V1.0_FORUM1_Public_20191220
<b>Date Uploaded</b> (inserted by project office)	Dec 20 <sup>th</sup> , 2019

## AUTHORS/ CONTRIBUTORS LIST

Name	Function	Organization
Mats Löfdahl	Task Contributor	SU
Dan Kiselman	WP2 leader	SU

## APPROVAL CONTROL FROM WP LEAD & CONTRIBUTORS

Control	Name	Organization	Function	Date
Prepared	Mats Löfdahl	SU	Task Contributor	Nov 29 <sup>th</sup> , 2019
Prepared	Dan Kiselman	SU	WP2 leader	Dec 17 <sup>th</sup> , 2019
Revised	Dan Kiselman	SU	WP2 leader	Dec 19 <sup>th</sup> , 2019
Authorized	Dan Kiselman	SU	WP2 leader	Dec 19 <sup>th</sup> , 2019

## APPROVAL CONTROL FROM PROJECT OFFICE

Control	Name	Organization	Function	Date
Approved	Tirtha Som	Leibniz-Institute for Solar Physics (KIS)	Project Manager	Dec 19 <sup>th</sup> , 2019
Approved	Rolf Schlichenmaier	KIS	Project coordinator	Dec 19 <sup>th</sup> , 2019
Authorized	Markus Roth	KIS	Project Scientist	Dec 19 <sup>th</sup> , 2019

## HISTORY OF DOCUMENT CHANGES

Issue	Date	Change Description
Version 1.0		Initial Issue

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# SOLARNET forum for telescopes and databases

**Venue:** Albanova University Centre, Stockholm, Room FB54

**Time:** 26 November 2019, 09:00-16:15

Appendix 1: List of participants

Appendix 2: Agenda

## 1. Welcome

The participants introduce themselves.

Dan Kiselman welcomes the participants to this first Forum for telescopes and databases. The Forum serves several purposes. Most important is discussions and evaluation of the Access and Virtual Access programs, and here it can serve as a contact point between service providers and users. It is also dedicated to networking concerning operations of telescopes and other facilities as well as for other activities listed under SWP 2.1. SOLARNET leaders, telescope and database operators are all welcome as well as anyone with an interest in these facilities and activities. The actual agenda of each Forum must to some extent be driven by the participants at every Forum and this is also true for the agenda of today.

Dan Kiselman then gives a brief overview of the whole SOLARNET project.

## 2. Overview of SOLARNET TAS Programme

Dan Kiselman, SU, presents an overview of the SOLARNET Trans-National Access Programme:

- Overview - previous SOLARNET FP7, instruments and facilities offered in SOLARNET H2020
- There were three calls issued in 2019:
  - All Canarian telescopes: GREGOR, SST, THEMIS, VTT
  - Call for GREGOR and VTT for period 2019B
  - Call for the Piz Daint supercomputer – the allocation procedure is not yet finished.

Lessons learnt:

- Evaluation by the users of telescopes is not yet finished.
- There was a lot of interest in coobservations. This complicated the selection procedure. We will try to enforce that a proposal for coobservations is counted as only one proposal. If the researcher also would be satisfied with time on one telescope a specific proposal for that need to be submitted.
- The Piz Daint call was complicated to prepare and the application process takes time. There is a need for education of proposers.
- Calls in 2020 - plans. The German telescopes GREGOR and VTT want to postpone their call until February. Piz Daint call should probably come early.
- H2020 rules allow 20% of total amount of Access to be awarded to researchers from non-EU and non-associated states. Until now we have not done this. Current policy is to wait and then possibly use this quota to soften the consequences of a hard Brexit.
- H2020 rules only exclude researchers from the country where the facility is located. For the telescopes on the Canaries this means Spain. However, we have so far also excluded the owner countries: Sweden (SST), Germany (VTT and GREGOR), and France (THEMIS). A rule must be formulated for SUNRISE 3 before that call is made.

- Other issues being discussed:
  - How to reach new users - stress more that reductions are included (for SST); having more service mode, service mode for multi-telescope projects; print a poster.
  - Inconsistencies in data policies - German telescopes give 2 years proprietary period if data belong to a PhD project, with EU rules you get only a single year.
  - Archiving issues - both observational data and for simulation data need to be archived.
  - A common proposal format does not exist but is desired.
  - SUNRISE 3 - what if it is postponed out of the project period?

### 3. Service mode observations – a 2019 SST experience

Gregal Vissers, SU, reports on the experiences from a five-day service-mode campaign at SST in August 2019. The campaign was using SOLARNET time. The programme consisted of three proposals. Data were obtained for all proposals, but none were completed fully. The organisation consisted of:

- Pre-observational activities
  - Adjustment of programmes, aimed for common calibrations (required interaction with PIs)
  - Ranking, availability (interact with PIs), seeing, coordination w/ IRIS
- Post-observational activities
  - Quicklook assessment of data quality, priority assignment, quality assurance (interact with PIs)
  - Delivery to PIs

It is concluded that a period of 5 days is too short for a service-mode campaign given the chances of good weather conditions. Common calibrations worked well but some compromise was needed to accommodate all proposals

In the discussion the following questions are brought up and addressed:

Are  $r_0$ -limits meaningful requirements? – Meaningful for experienced observers but not for new users.  
Should we maximize service mode at the expense of PI mode? – Makes sense to have longer service mode campaigns. Coordinate with technical days, easy to switch between them based on conditions.  
Feedback from PIs? – Not much so far.  
Reasons for service mode vs PI mode? – Service mode: efficient but expensive. PI: people want it.

### 4. Coordinated observations

Christoph Kuckein, AIP, presents an outline of the SOLARNET task on coordinated observations in which is included organisation of coordinated observing campaigns with solar ground-based and space-borne telescopes.

- Increase sampling of solar atmospheric heights etc
- Both space and ground telescopes (not just solarnet instruments)
- Difficulties: there is no world-wide TAC, weather and seeing conditions different, data alignment, time zones
- Examples of previous coordinated campaigns are presented.
- Proposal: reserve 1 week in 2020 for observations with all available telescopes. The goal should be to follow one active region. A backup plan in the case of none being available needs to be prepared.
- The deliverable is a document with good practices for coordinated observations: summary of available telescopes and instruments, recommended combinations. First draft by the end of 2020 after the first coordinated campaign.

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Discussion:

What did we promise? Nothing about number of telescopes included.

What has been done before and what new ideas can we come up with?

## 5. VTT legacy collaboration

Carsten Denker (AIP) presents (remotely) a plan for pooling observing time on the otherwise under-utilized VTT for a synoptic-type observing programme with the echelle spectrograph. For this, young interested observers are sought and advertising will be made.

Discussion:

Coordination with summer schools is a possibility to be considered.

## 6. Coordination between ALMA and ground-based solar telescopes

Miroslav Bárta, ASU, presents:

- The ALMA facility
- The European ALMA Regional Centre (ARC) in Ondřejov gathers expertise for solar ALMA observations.
- Specifics of solar observations with ALMA
- Details of ALMA proposal procedures and scheduling.
- Solar ALMA observations are usually scheduled in campaign mode. About 4 weeks per year split in two parts.
- Hinode & SDO automatically adapt to ALMA targeting.
- ALMA has hard constraints on when and how solar observations can be done, notably because of array configurations. Detailed scheduling is made a short time before the actual observations.
- Coordination with Canarian telescopes is demanding because of constraints from the reverse seasons and longitude difference. But it is not impossible as shown by successful examples from Cycle 6.

## 7. The Virtual Access Programme

Mats Carlsson, UiO, presents WP10:

- Participating data centers:
  - Hinode Science Data Centre Europe (UiO) - data from many instruments
  - Belgian site – SDO-AIA, SVO
  - Stockholm SST Archive
  - KIS
  - INAF – IBIS data

There are several deliverables of which many concern the assessment of virtual access. This is supposed to be made by an external committee which has not yet been formed.

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## 8. Metadata definitions for observational data and numerical simulations

Mats Carlsson, UiO, the status of the metadata sWPs:

- One physical meeting on metadata is envisioned, jointly for observations and simulations
- The metadata document from the first SOLARNET concerns observational data, recommendations have continuously been developed together with their implementation in the pipelines for the SST instruments.
- The goal for metadata for simulations is to be able to use such data in a similar way as for observational data, e.g. in software such as CRISPEX.
- We should strive for a common output format for different simulation software, like Bifrost and Muram

## 9. Big solar data storage - KIS plans

Nazaret Bello Gonzalez, KIS, presents plans for the data facilities of her institute:

- EST data rates will be larger than those for existing instruments.
- Initial situation: many instruments, processed data available through web app
- Storage concept: In the current situation commercial cloud-based models are not competitive.
- Plans: Disseminate data from German observatories and from DKIST (mirror DKIST data center); preparing to become data center for EST
- An application for funding for this data centre is currently under review in Germany.

## 10. The SOLARNET Dissemination, Communication and Exploitation (DCE) plan

Richard Morton, WP4 leader, has asked the Forum for comments on some sections in the DCE plan. The discussion results in the following comments:

- Input for the section on the Forum will be formulated by Dan Kiselman.
- The word 'standards' should be treated carefully. 'Recommendations' is better.
- Outreach to new infrastructure users - A poster is an obvious thing to produce.
- Data preservation and curation - No one can really "guarantee" anything about data preservation beyond the SOLARNET project.

## 11. Coming Fora, other meetings, other matters

It is decided that the next Forum, which should be held in 2020, will be organized/planned by UiO, though not necessarily held in Oslo. The Fora in 2021 and 2022 should be organized by KIS and ROB, though the order is not yet decided.

It is noted that the next SOLARNET-related meetings will be held in Prague (21 January: EAST General Assembly; 22 January: Pre-EST Board meeting; 23 January: SOLARNET General Assembly).

## 12. End of Forum

Thanks to everybody for contributing and listening.

The Forum will be followed by a dinner at 19.

## Appendix 1

### **First SOLARNET Forum for Telescopes and Databases Stockholm 2019-11-26**

#### **Participants in situ**

Dan Kiselman	Stockholms universitet (SU)	WP2 & WP9 lead
Bob Bentley	University College London (UCL)	
Mats Carlsson	Universitet i Oslo (UiO)	WP10 lead
Jorrit Leenaarts	SU	
Alex Pietrow	SU	
Olexa Andriienko	SU	
Rolf Schlichenmaier	Leibniz Institute for Solar Physics (KIS)	SOLARNET Coordinator
Miroslav Barta	Astronomický ústav AV ČR VVI (ASU) Leibniz Institute for Astrophysics Potsdam (AIP)	
Christoph Kuckein	Potsdam (AIP)	
Nazaret Bello Gonzalez	KIS	WP5 lead
Gregal Vissers	SU	
Mats Löfdahl	SU	note taker
Tomas Hillberg	SU	
Philip Lindner	KIS	
Andrew Leonard	Aperio Software Limited (Aperio)	
Malcolm Druett	SU	
Jaime de la Cruz	SU	
Carlos Diaz Baso	SU	

#### **Remote participation via zoom**

Ilaria Ermolli	INAF
Lucia Kleint	KIS
Andreas Lagg	MPS
Carsten Denker	AIP
Marco Molinari	INAF

## Appendix 2

### SOLARNET Forum for telescopes and databases

Venue: Albanova University Centre, Stockholm. Street address:  
Roslagstullsbacken 21

Room: FB54 on level 5 (same level as the main entrance), ask for help in reception if needed.

Time: 26 November 2019, 09:00-17:00

### AGENDA

#### 09:00 Welcome

The Access Programme (SU, Dan Kiselman)

*Coffee break*

Service mode observations (SU, Gregal Vissers)

Coordinated observations (AIP, Christoph Kuckein)

Coordination between ALMA and ground-based solar telescopes  
(ASU, Miroslav Bárta)

#### 12:40 Lunch

#### 14:00 The Virtual Access Programme (UiO, Mats Carlsson)

Metadata definitions for observational data and numerical simulations  
(UiO, Mats Carlsson)

Big-data storage (KIS, Nazaret Bello Gonzalez)

*Coffee break*

The SOLARNET Dissemination, Communication and Exploitation  
(DCE) plan

Coming Fora, other meetings, other matters

#### 17:00 End of Forum

**19:00** Dinner at "Cypern", Valhallavägen 50 (near the north exits of the Tekniska Högskolan subway station).

For each agenda item there will be an introductory presentation, followed by a discussion. On average, each point can use 30 min with the exception of "The Access Programme" which is expected to take significantly longer time.