

LOFAR4SW Science Requirements Workshop, Meudon, 2-4 May 2018

Wednesday 2nd May 2018

Morning – PLENARY –

- 09:00** Arrival and coffee
- 09:30** - Welcome and meeting logistics – Nicole Vilmer
- Introductions – All
- 10:00** - The LOFAR radio telescope and the LOFAR4SW project
- Workshop aims and expected outcomes – Richard Fallows
- 10:20** - LOFAR4SW in the landscape of space weather observatories – Eoin Carley
- 10:50 - 11:20** – break –
- 11:30** Current space weather science with LOFAR, 10-minute overview talks continued:
- Solar dynamic spectrum – Jasmina Magdalenic
- Solar imaging – Eoin Carley (slides from Pietro Zucca)
- Interplanetary scintillation – Mario Bisi
- Heliospheric Faraday rotation – (TBC)
- Ionospheric parameters from Interferometry – Richard Fallows (slides from Maaijke Mevius)
- Ionospheric scintillation – Biagio Forte
Further potential space weather science with LOFAR, 10 minute overview talks:
- Passive radar sounding of the ionosphere – Thomas Ulich (slides from Juha Vierinen)
- Observing the middle atmosphere – Jorge Chau
- Operational forecasters perspective – (TBC)
- 13:00** End of session
- 13:00 – 14:00** – lunch –

Afternoon – Breakout Session

The various broad science areas should discuss amongst themselves what could be done with LOFAR for space weather, establish some science goals and start to think about what's needed to achieve them.

- 14:00** The definition of “requirements”, “SMART” - Stuart Robertson
14:25 Organisation of breakout groups and guidance for them – Richard Fallows

“Blue skies” thinking time in broad science groups: Solar, Heliosphere, Ionosphere, Others. This can include brief presentations from group members, if desired. The aim should be to identify science “use cases” for a LOFAR4SW system.

16:00 – 16:30 – break –

16:30 Break out further into sub-groups as necessary to start thinking about the broad high-level requirements (e.g., interferometry/beam-formed, baselines, time/frequency resolution, bandwidth, etc...) needed for each of the use cases.

[- LOFAR4SW project data brainstorm – splinter session]

18:00 End of session

18:15 20:00 Reception (salle Uranie in the castle)

Thursday 3rd May 2018

Morning – PLENARY –

09:00 Interactive summaries from all science cases:

Each science case should present a brief summary of the science they wish to achieve and high-level requirements need to fulfill it. Initial critique of how these translate to lower-level requirements.

10:45 – 11:15 – break –

11:15 Establishing firm list of science cases to proceed with:

Identification of potentially conflicting science cases and possible ways to resolve any conflict, including prioritisation if necessary. Start establishing full list of requirements.

13:00 – 14:00 – lunch –

Afternoon – Breakout Session

14:00 Science groups to commence writing up science use cases as separate documents and firming up the list of requirements, with the aid of the system engineers.

15:45 – 16:15 – break –

16:15 Continue

1 8:00 End of session

19:30 – late Workshop dinner

Friday 4th May 2018

Morning – PLENARY –

09:00 Review and capture of all use cases and requirements.

10:45 – 11:15 – break –

11:15

- Final discussions on the science requirements;
- Allocation of responsibilities for finalising science use cases;
- Next steps to keep the science community involved in LOFAR4SW progress.

13:00 – Lunch and depart –