SWG Chairs Telecon 16-July-2019
Notes by Jeff Wagg

Participants: SWGs: Ann Mao, Jason Hessels, Lourdes Verdes-Montenegro, Francoise Combes, Sarah Blyth, Izaskun Jimenez-Serra, Natasha Hurley-Walker, George Heald, Garrelt Mellema, Mark Sargent, Richard Battye, Jason Hessels, Grazia Umana, Eduard Kontar, Alvise Raccanelli, Willem van Straten, Anna Nelles, Laura Wolz

Apologies: Doug Johnstone, Divya Oberoi

SKAO: Robert Braun, Jeff Wagg, Tyler Bourke, Evan Keane, Rosie Bolton, Anna Bonaldi

Topic: High frequency science case update
JW: Some 60 SWG members are already contributing to this effort and anyone else who is interested can request access via the web address. The aim is science providing motivation for development of feed and receiver systems for SKA deployment above 15 GHz. Vital to bear in mind that this is not diverting effort from delivery of the SKA1 Design Baseline.

RB: Again, I would like to emphasize that this work does not detract from delivery of the Design Baseline.

LM: Is the deadline at the end of Sept driven by the Shanghai meeting?

JW: Yes, and the kick-off meeting for the ASPFR at the beginning of September

GM: Did anyone from the EoR group volunteer to contribute?

JW: Gianni mentioned some interest in contributing to the high-z CO case with some intensity mapping text.

Topic: SKA data challenges
RB: Some of you will have followed our news feed and seen that we have announced the winners of the first data challenge, which was a great effort. This has been a learning effort for everyone involved and we want to write a paper builds on this experience to improve understanding of the various source finding and characterisation methods. Moving ahead we have four ideas for the next data challenge. The slide shows a list of possible options. The first is a transient challenge with images containing transients over a range of timescales. We would try to link the transient source populations to the static continuum sky model that we are currently using. The second option is to look at an HI emission and absorption challenge with both resolved and unresolved targets. We would explore an interesting redshift range and sample a sky large enough to be interesting. Your help would be appreciated in terms of defining the parameters of the challenge (target population)
JH: What is the deadline for feedback?
RB: If you could get back to us within two weeks, that would be helpful. Does that work?
JH: That should be fine.

RB: The next option is a polarization challenge with plausible Q and U signatures. Your input would also be helpful here. If it is of interest, please let us know. Finally, we are considering a foregrounds removal challenge. We do not yet have the resources for a full EoR/IM simulation, but are considering one focused on identifying and removing IM or EoR foregrounds from the relevant data products. We are open to suggestions for fleshing out the details.

LM: We are nominating Commensality Champions and it would be easier to launch this activity with simulated datasets. As such, we could perhaps combine the second and third ideas.

RB: This is a very good idea and Anna may be able to comment further on this, our goal is to have a toolbox full of modular simulation tools for a wide range of source populations. Depending on our ambitions, we could start with just one new source population or introduce several at once.

LVM: The timescales would be every six months, or longer?

RB: Yes, we were originally too optimistic and have now realised that in order to do a good job requires more time. Anna estimates availability of SDC2 next summer, but hopefully we could manage sooner.

LVM: OK, the commensal champions are about to be nominated and so having this included within the next challenge could work.

RB: I suggest that we begin with the one idea that generates the most interest and we will have Phillipa Hartley working on this full time from September. Let's start with one and then add more commensal source populations if that turns out to be practical.

TB: How are you finding these champions.

LVM: In HI we have solicited volunteers from the group. Mark?

MS: Basically, we have of the order of four to five working groups currently focused mainly on MID commensality and have received ten expressions of interest from people who would like to act in this role. We will select a few.

JH: Who is the main contact?

LVM: Mark Sargent.

MS: Anyone else who wants to join is welcome.

RB: This is excellent to see interest emerging in this area and being discussed broadly. We will advertise this initiative more broadly. Let us know how else we can help.

MS: Having the compute load tables that were made for the HPC Requirements Document would be useful.

Topic: SKA Regional Centres
RBolton: I will be attending these monthly SWG meetings and would be happy to help with the commensality discussion and calculations. With regards to the regional centres, as you hopefully are aware, we have just set up the SRC steering committee. One of our first actions is to set up a Users Forum, composed of science users. We would like to know what you need in terms of data volume and processing. We would like each SWG to nominate one or two people to act as Data Champions. As the slide shows, we need to understand the required data products and what extra simulations or analysis you might want to do at the RC. Along with Lourdes and others we will work with you to create use cases that define these needs and requirements. We would like to establish public shared models which we can iterate on. If it is clear what you need, we would like nominations from your groups within the next three weeks. This will be an ongoing effort that will evolve.

EK: What will be the underlying principle behind the centres? Will they be based on region or science?

RBolton: The main principle is that these will be location-agnostic. The user should not need to know where the data are located and they can log in from anywhere.

EK: What will be the order of magnitude number of these centres? How many, one per participating country?

RBolton: Somewhere between one per country and one per region. We do not want to have to coordinate too many regions. As long as the interface behaves as one, it does not matter. It is not likely that a single University could act as an SRC.

RB: To answer your fundamental question, it should be transparent to the user, and no one should be disadvantaged by their region and the availability of local expertise/HPC. People should always be able to extract science as effectively as possible. No one should be worried that their local SRC does not have all of the capabilities of others.

EK: The concern was that the RCs might be strongly expertise focused.

RBolton: Users will need support to develop their pipelines, but the data processing does not need to be local.

Topic-LFAA update

JW: The LFAA Bridging activities to achieve readiness for the System Critical Design Review were discussed recently in Florence. Key open questions relate to the antenna performance and ability to form effective station beams. Excellent progress has been made on understanding the embedded element patterns, beam-forming, gain stability and calibration methods. Sufficient material to support the System CDR should be available in time for the September deadline.

Topic-Upcoming SKA-related meetings

LVM: For the Spanish SKA days we had about 80 people as well as Phil, Anna, Jeff and Cristina from the office. We had a few parallel science sessions with some emphasis on the synergies between different wavelengths.

AM: Last month we had the Galactic Magnetism meeting with many invited talks and posters which was a good mix of observers and theoreticians. A meeting summary will be published in Nature Astronomy.

TB: The Swiss held a two-day meeting in June. Swiss are very positive about joining, and we hope that they will join in 2021. While they are waiting to join, there is a lot of work within the community in order to see where they can contribute.

EK: EWASS special session on FRBs had about 50 Participants. We had a long discussion forum on the FRB catalogue. Lots secret results that I cannot share.

JW: Thanks to those of you acted on the SOC for the SS29 meeting, it went over well with about 50 participants covering a broad range of multi-wavelength surveys that might influence SKA1 survey design choices.

TB: What is CESRA? The Community of European Solar Radio Astronomers.

 LVM: We have a solar astronomy meeting in Spain in September, and we would appreciate someone from the office to present about solar observing with the SKA.

GU: After the Manchester meeting there has been a lot of discussion between MW group and VLBI and we will have our first meeting in Manchester after the VLBI workshop to push on the commensality.

RB: Thanks, any final remarks. OK, well thanks again for taking part.