

SWG Chairs Telecon 21-May-2019

Meeting Notes: Evan Keane

Participants: SWGs: George Heald, Cormac Reynolds, Lourdes Verdes-Montenegro, Sebastien Muller, Gianni Bernardi, Izaskun Jimenez-Serra, Garrelt Mellema, Sarah Blyth, Mark Sargent, Natasha Hurley-Walker, Eduard Kontar, Richard Battye, Willem van Straten

Apologies: Jason Hessels, Françoise Combes, Ann Mao, Phil Edwards

SKAO: Robert Braun, Jeff Wagg, Evan Keane, Anna Bonaldi

TOPIC: BAND 6

JW: update on high-frequency (above Band 5) science case.

Advanced Single Pixel Feeds and Receivers (ASPFR) collaboration working on the possibility of Band 6. Built on the expected performance of the dishes beyond Band 5, which we will know for sure in the next few months. But also of course must be science-driven. Focusing on 2 main bands, ~15-25 GHz (low risk), ~25-50 GHz.

At Science Meeting had a lunch time break out on the Thursday. Community-led effort ongoing to update the science case for Band 6. Everyone invited to help, to contribute to this (3-5 page/chapter). Some lead authors have been identified already. Work is ongoing on pbworks system wherein there is a LaTeX template etc. SWG-all to be sent information in next few weeks.

RB: anticipate a process where there would be co-funding provided from the "Observatory Development Programme" but this funding stream likely will only exist when we are near/in an Operational phase. This is part of a broader picture looking at the wider upgrade possibilities. Decisions on what to do in these regards based on what makes the most sense scientifically.

Izaskun: how much time will there be to generate these chapters?

JW: would like to have this by late-Autumn. Please contact any people you may have in mind.

TOPIC: DATA CHALLENGES

AB: Science Data Challenge #1 (SDC1) is now wrapping up. Continuum image project for 3 frequencies and 3 depths. Included a number of unique SKA-specific features, but did not push on realistic (i.e. very large) data volumes. Task is to detect, characterise and classify the sources in the images, as well as getting used to these data formats, etc.

SDC1 is formally closed but the data will remain accessible on the SKA web pages.

Email + Press Release were found to be the most effective way to communicate the SDC1. Noted for next challenges.

17 teams registered interest, 9 submitted results by the deadline. Geographically diverse, representing the SKA community. Only ~50% are in SWGs and many from diverse discipline background.

Scoring methods based on completeness and reliability of detections and classifications.

Anna showed several example plots on integrated flux recovery, size recovery etc.

All participants were interested to partake in future data challenges.

SDC2 possibility is in intensity mapping, and foreground cleaning. This work has been done recently with STFC Industry Placement postdoc Dr. Tianyue Chen.

GianniB: what is the prize for the winning team?

AB: will do a press release soon, and a paper later

RB: haven't figured out what substantial prize will be, but there will be one. What would you suggest?

GM: are all the results off systematically for large objects?

RB: yes, but this is just one method shown. Other methods good on size, but not as well on integrated flux etc. Will be fully explained in a publication.

GM: intensity mapping would resemble a lot what is being done in the EoR SWG.

AB: 7 or 8 groups too, so similar size and scale. Also, systematics need to be understood in both cases.

GM: are you on the EoR Slack challenge?

AB: maybe ...

JW: Also, Rosie is on this

TOPIC: UPCOMING MEETINGS

A lot of upcoming SKA-related meetings, e.g. in Spain, Switzerland, Lyon (EWASS), Potsdam, SKAO.

TOPIC: ROUND TABLE

Lourdes: recent work has been organising SKA days in Spain.

SarahB: no other HI SWG updates at this time

Natasha: structural re-organising in the SWG

MarkS: the SWG wants to move forward with "commensality champions". Will send out an email for EoI for people to do this role within the SWG. Structure and scope of these roles being decided.

GarreltM: not been a lot of activity since the meeting in Alderley Edge.

GianniB: not sure what next meeting focus will be.

GarreltM: 3 possibilities. Looking at Dec/Jan in India, and next March in Italy. Also, next July in Beijing. Work in progress.

RB: SKALA4 + other prototype testing is going well. Weather allowed the deployment to take place as planned. First bits of data coming through on what the bandpass looks like and how stable it is with time etc. Early indications look positive and probably will have something to report by the next SWG Chairs telecon.

JW: Low Bridging meeting also in July where this will be well understood.

RB: Expect some plots and data ahead of the next meeting

GeorgeH: Have put magnetism Science meeting slides on zenodo, so they now have DOIs and are cite-able. Have a meeting coming up in Newcastle (UK). Also, a special issue of the journal "Galaxies" coming soon with Ann Mao and Andrew Fletcher as guest editors. Magnetism SWG will prepare a

paper for that. In area of commensality also keen to keep up the work mentioned by MarkS for continuum.

Izaskun: Also been working on the Granada SKA in Spain days. Followed up on work discussed in Alderley Edge, and with Cristina G-M on VLBI-related science cases. Astrometry of star-planet systems at 1 micro-arcsec is looking a new and exciting possibility. Also working with Maria Riojo and Richard Dodson on this, and the calibrate-ability issues with this. Currently working to identify good target(s).

EduardK: 10 days ago had an interesting meeting in Croatia in solar physics with European-Chinese collaboration as a focus of that work. SKA was one of the aspects there. Pleasantly surprised by the 3x over-subscription for the meeting. Large interest in synergies.

RB: white paper for ATHENA-SKA maybe a good example?

RichardB: not much has happened since the meeting.

WvS: most people in the pulsar SWG in past few months have been in MeerKAT commissioning efforts for MeerTIME and TRAPUM projects in particular. Lots of progress on many fronts.

RB: sounds quite promising. Recently got some MeerKAT data also re: HI intensity mapping SDC possibilities, looking at MeerKAT receiver bandpass stability. Very promising looking. 3 hours of data looking at SCP.

Cormac: lots of work since Alderley Edge, with help from Cristina. Looking at VLBI use cases. Have a workshop in SKAO in October. Some suggested ECPs also being circulated within the FG. More beams for VLBI, and also advocating for earlier start date (in roll out plan) for VLBI capabilities. Also 5 new members since then.

SebastienM: main focus ATM is coordinating high-freq white papers.