

SWG Chairs Telecon 14-August-2018

Minutes by Jeff Wagg

Participants:

SWGs: George Heald, Ann Mao, Gianni Bernardi, Fernando Camilo, Laura Wolz, Jason Hessels, Willem van Straten, Sarah Blyth, Natasha Hurley-Walker, Cormac Reynolds, Sebastien Muller

Apologies: Izaskun Jimenez-Serra, Erik Rosolowsky, Doug Johnstone, Grazia Umana, Francoise Combes

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

RB: starting with slide number 3, here is an update on the critical design reviews (CDRs)

- TM, SDP, and INFRA have successfully passed their CDRs as well as the sub-elements of CSP
- LFAA CDR will hopefully happen before the end of this year
- Only AIV and the end of the DSH CDR are scheduled for next year
- things have gone very well and the system CDR is scheduled for next March

- Next we have some images of the dish prototypes being built in China and in South Africa
- Much of the dish backup structure has already been assembled in SA

Fernando: image of the MeerKAT and GBT image produced by Ian Heywood

- on April 19 was the first time that 64 dishes were pointed at an astronomical source
- in early May we were looking for an object that would be PR worthy for the inauguration and the GC image came out as a good choice. In June we made the mosaic shown here
- we were able to observe for 11 hours each night
- The IDIA cluster was used to process the data
- Scientific analysis of the data will continue over the next couple of months

RB: On slide 6 we summarize the calibration requirements document which has been released

- On page 7 the table shows the number of sources one would need to model as a function of frequency
- slide 8 shows the resulting computing requirements
- slide 9 shows the sub-processes that go into calibration and imaging where the different symbols represent the different use cases that were analyzed
- On the right plot you can see that the discrete Fourier transform dominates the computing
- Slide 10 shows some caveats. For example, we need to better understand the real computational efficiency which is currently assumed to be 10%. LOFAR achieves a much higher efficiency
- We need a full description of the direction dependent calibration in the parametric model
- On slide 11 we show ways to optimize the scientific productivity depending on the problem
- In the case of LOW, there is a smaller number of use cases that have been included
- 25 + 25 PFlops is what has been put forward during the cost control process as what might be deployed at the beginning of SKA1 operations, with a complete refresh to 270 PFlops within 3 – 5 years

Q: Jason: how do non-imaging applications get included

A: RB: They have been included but are not very expensive computationally

- slide 13 shows another view of things - constraints that may be imposed by data transmission limitations
- plots show the 'maximum allowed spectral line data product fraction', as constrained by the network bandwidth off-site
- in the case of LOW, the data product constraint is not as severe as it is for MID
- document has been reviewed by SEAC and will be released once updated
- regarding upcoming meetings, we have had good response from the community to help run the IAU booth, thanks for that and please pass by

Evan: for the 2019 science meeting, registration is now open and the deadline is October

- UK visas can take up to 3 months
- Is anyone planning a submission for EWASS 2019 for which there is an 8 September deadline? (No replies)
- on a slightly longer timescale is the URSI 2020 meeting (in Rome), so if anyone has ideas please let us know

Anna: re. data challenges. Please have a look at the new astronomer's website where we have updated the content

- this includes an update for the SKA timeline
- We now have a link to a page that has been setup for the data challenges
- the data products will be linked here
- we are working to produce a first simulated continuum dataset
- the data will be produced in a data format similar to what SDP is likely to produce
- this will help SDP understand whether the format they are proposing is useful to the community

RB: - re. SWG focus group meetings, there was a successful Galaxy meeting in Sicily and an upcoming Cosmology wg meeting 13-14 of Sept., 2018

Jeff: EoR/CD meeting Sept. 24-26 in London

Jason: FRB meeting in Amsterdam the week of the 18th Feb., 2019

Sarah: HI PHISSC meeting will take place during the second week of Feb. next year in Australia

Willem: Scintillometry Workshop, Oct 22-26 in Shanghai