

SWG Chairs Telecon 17-Dec-2019

Notes by Philippa Hartley

Participants: Eduard Kontar, Anna Nelles, Valentina Vacca, Mark Sargent, Andrei Mesinger, Laura Wolz, Abhirup Datta, Cormac Reynolds, Francoise Combes, Gianni Bernardi

Apologies: Jason Hessels, Ann Mao, Jan Frobich, Izaskun Jimenez-Sera, Natasha Hurley-Walker, Sarah Blyth, George Heald

SKAO participants: Anna Bonaldi, Robert Braun, Philippa Hartley, Tyler Bourke

System Critical Design Review

- Robert presented slides representing what's under review and next steps
 - Details of CDR panel and outline of meeting
 - Outcome: STRONG PASS

What's next: S-CDR to T0 (slide 5) streams of activity:

- transition to IGO progressing well,
- submission of design baseline,
- prototyping
- first measurements have already taken place, station calibration report reports that Sun is most useful calibration source, software: programme increments progressing well, adoption of SAFe successful
- dish element CDR still to take place; prototype is in the field already and being tested
- construction: deployment baseline incrementing on previous deployment baseline
- procurement: funding 20 SKA-compliant dishes to be placed in South Africa, 4 to be used in early work (#0.5): early commissioning of on-site dishes.

Deployment baseline definition

- Update on deployment baseline
 - Cost control process of 2017 will be incremented using some new ideas - arisen from individual element critical design reviews.
 - Looking ahead to a consistency check next year for submission at SKA board meeting 28th Feb
 - definition to be finalised March/April
 - Information sessions to take place in UK, SA and Aus in April/May

Qs/comments:

None

Update on work on construction proposal

Qs/comments:

None

Update on observatory development programme (ODP)

- Looking to develop enhancements to SKA1 capabilities
- Retaining and developing expertise within the membership
- e.g. (slides 9 – 12)
 - extending frequency coverage
 - Going to higher angular resolution (considering power spec of EoR foreground): VLBI mode
 - Enhanced FoV: mode station beams, phased array feeds
- A co-funding programme for this technology development (slide 13): proposals and selection for funding
- Good mix of low(high) risk, short(long) term approaches
- Supported from 2027 by operations budget
- Ramp up to that from 2021 respecting construction budget

Qs/comments:

None

SDC2

- HI emission signatures: atlas cubes injected into observational cubes
- RFI modelling
 - Aim to include realistic RFI signatures in challenge data
 - Example from MeerKAT data includes RFI from satellite constellations
 - Developing code to support ephemeris-based de-mixing of GNSS signatures

Qs/comments:

Francoise:

- What is the intense RFI at low freq?

Robert:

- GSM telephone interference
- Plan to suppress emissions in GSM band by putting nulls in direction of SKA core that is still to be implemented
- These signals are originating from known locations, so de-mixing could be also be applied there
- See also work on TV RFI for LOW stations

SKA science community

- 900 members, 40 countries (slide 21)

Announcement: Science meeting 2020, Stellenbosch

- Anna is the SOC chair
- Some difficulty securing adequate hotel pre-bookings for target dates
- Ongoing effort to resolve, possibly with a shifted date

Updated meetings:

- (slide 23)

AOB

Laura:

- Cosmology WG in Jan in Paris, 22nd to 24th: invitation to any other SWG members, encourage synergies

Abhirup

- CD/EoR: International conference, last two weeks of January - conference plus workshop <http://www.iiti.ac.in/people/~firstbillion/>

- 1) International Conference on “Observing the First Billion Years of the Universe Using Next Generation Telescopes”, January 20 – 24, 2020, IIT Indore, India
- 2) School on “Observing the First Billion Years of the Universe Using Next Generation Telescopes”, January 27 – 31, 2020, IIT Indore, India

Gianni

- Deployment of first image of correlation of antennas (mentioned earlier)
 - Robert: Great news from LOW calibration efforts for station beam and antenna performance

Laura:

- In cosmology working group - intensity mapping WG working on data challenge for single dish mode simulations
- Hope to try testing of foreground removal efforts
- EoR group invited to get involved

ENDS