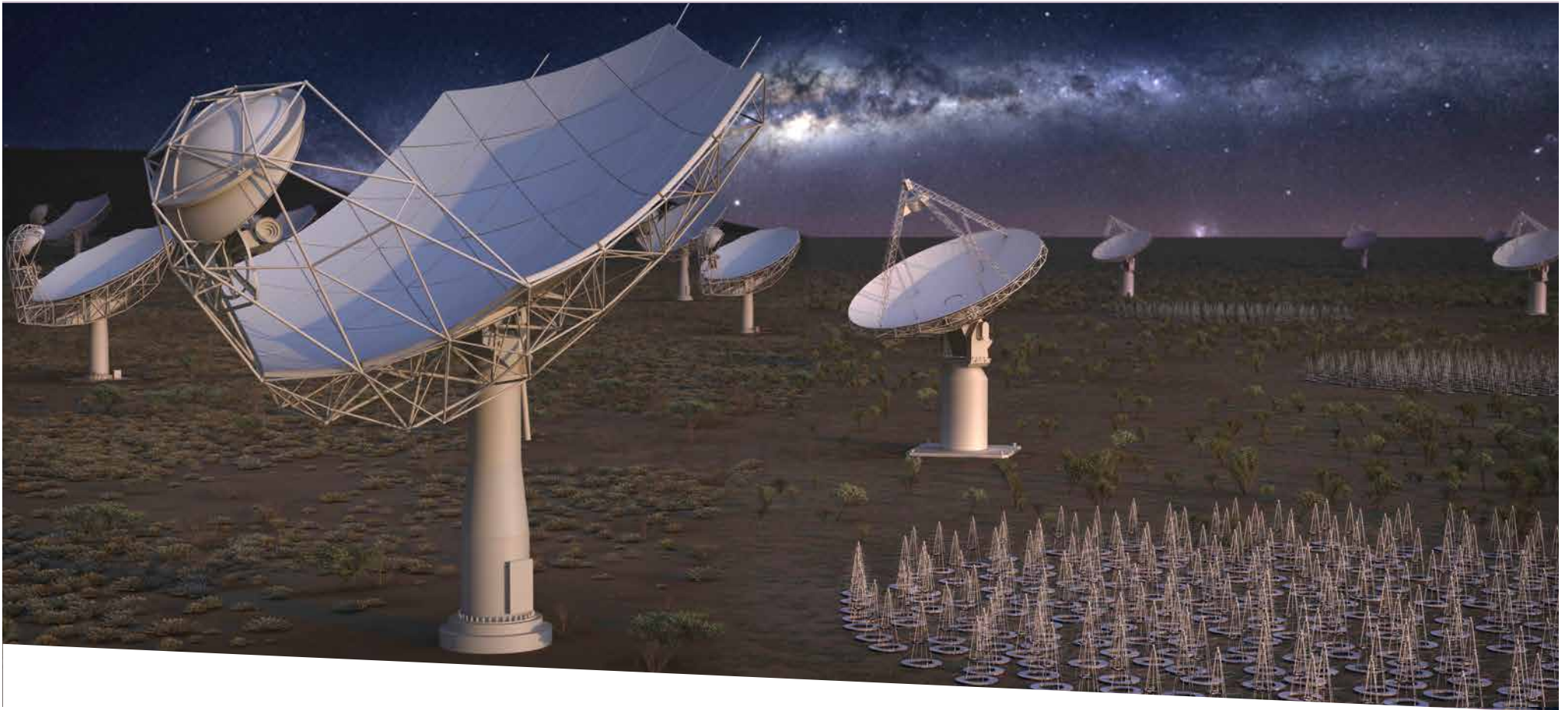


SKA SWG Update



SQUARE KILOMETRE ARRAY

Exploring the Universe with the world's largest radio telescope

Robert Braun, Science Director

11 September 2018

Agenda

- Progress report on SWG wiki investigation (Cristina)
- SWG Poster initiative (Tyler)
- Data Challenge update (Anna)
- SKA Science Meetings
- Community Updates

A wiki for the SKA SWGs

- **A common platform** for all SWGs to share news, group progress, activities (meetings minutes, discussions, workshops, publications, etc.)
 - With a **common landing page** for all the SWG groups (without password), with general information about the different groups, general news, etc. to attract interest and participation from other fields scientists.
 - With **links to the different SWGs wikis**, using the same platform, with user access required to upload or modify content, controlled by SWGs chairs.
 - With **access** from anywhere in the world.
 - Able to support ~ **500 users**.
 - With **SKA “brand”** design.

A wiki for the SKA SWGs

- Performed a **benchmark study** between wiki engines and wiki hosting services (wiki farms): <https://www.wikimatrix.org/index.php>
 - **Wiki engines:**
 - **Pros:** server requirement not demanding, simple installation and administration, data resident locally, no storage size or users limit, no fee.
 - **Cons:** burden for SKAO IT department for server and wiki maintenance (s/w upgrade, users administration, backup, security, etc.)
 - **Examples:** JIVE (Dokuwiki), MPIfR (deki wiki and possibly xwiki), etc.
 - **Wiki farms:**
 - **Pros:** cloud server offering simple tools for creation and development of wikis, avoid physical server and administrative burden.
 - **Cons:** some farms impose restriction in content, may contain adverts, storage size and users limits for free versions, annual or users fee for advanced versions, data resident "whoknowswhere", services shutdown schedule not controlled by us.
 - **Examples:** Cosmology and Continuum SWGs (PBworks), Zoho wiki, etc.

Proposal: use a fee version of a wiki farm (preferably PBworks, \$2000/year)

SWG Posters

- Aim to have a poster for each SWG, similar to those put together by the Consortia (see next slide)
- First use would be AAS in January, then the April SKA meeting, ...
- Asking each SWG to produce a poster by mid-November
 - Suggest each SWG find someone from their core group to lead (can be co-chair)
- Size and template as shown on next slide (to be provided to SWGs)

Exploring the Universe with the world's largest radio telescope

The Square Kilometre Array and the Cradle of Life

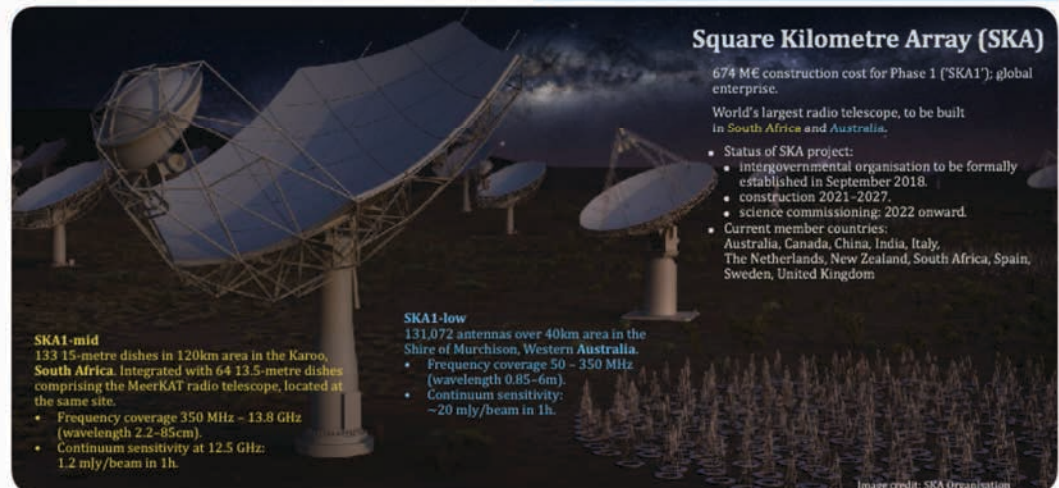
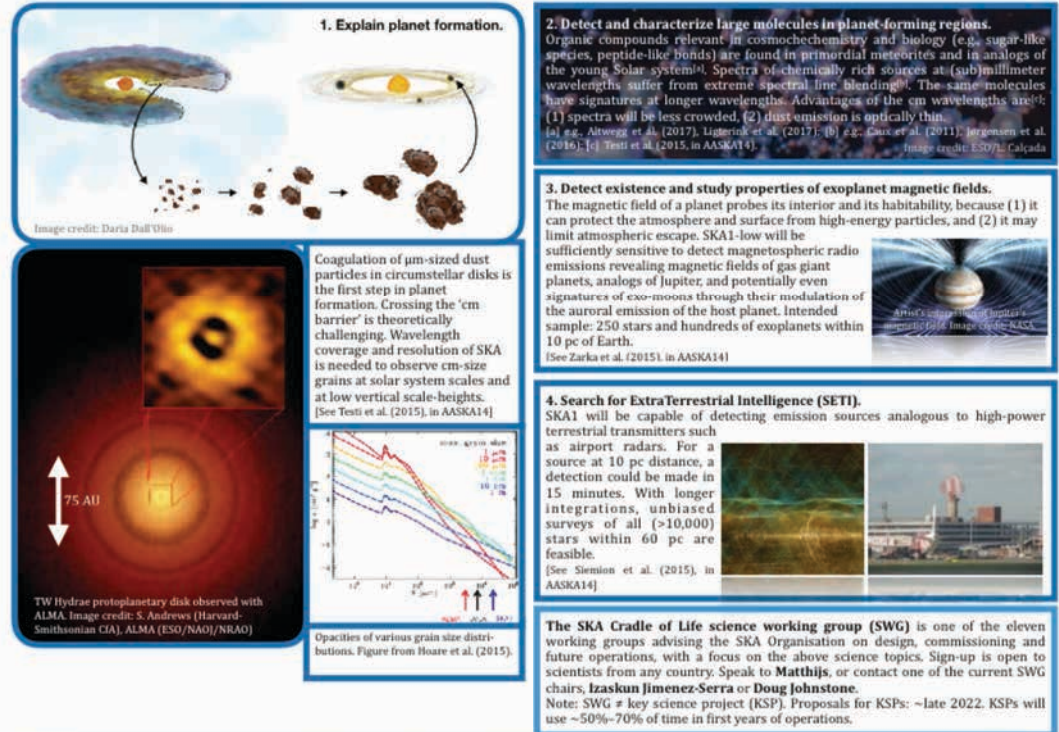


Matthijs H.D. van der Wiel¹, on behalf of the SKA 'cradle of life' science working group
¹ASTRON Netherlands Institute for Radio Astronomy, Dwingelo, The Netherlands
 wviel@astron.nl



From planet formation to the distribution of life with the SKA

(Hoare et al. (2015), SKA and the Cradle of Life, in "Advancing Astrophysics with the Square Kilometre Array (AASKA14)": 115)
 SKA books downloadable at www.skatelescope.org/books/.



Data Challenges #1

- Continuum image cube
- SKA Mid, 1 or more frequency bands
- One pointing, 8h observations
- Data info:
 - Image of 32K pixels per side for the full FoV
 - 0.24" pixel resolution in Band2
 - Size of a single frequency slice: 4Gb

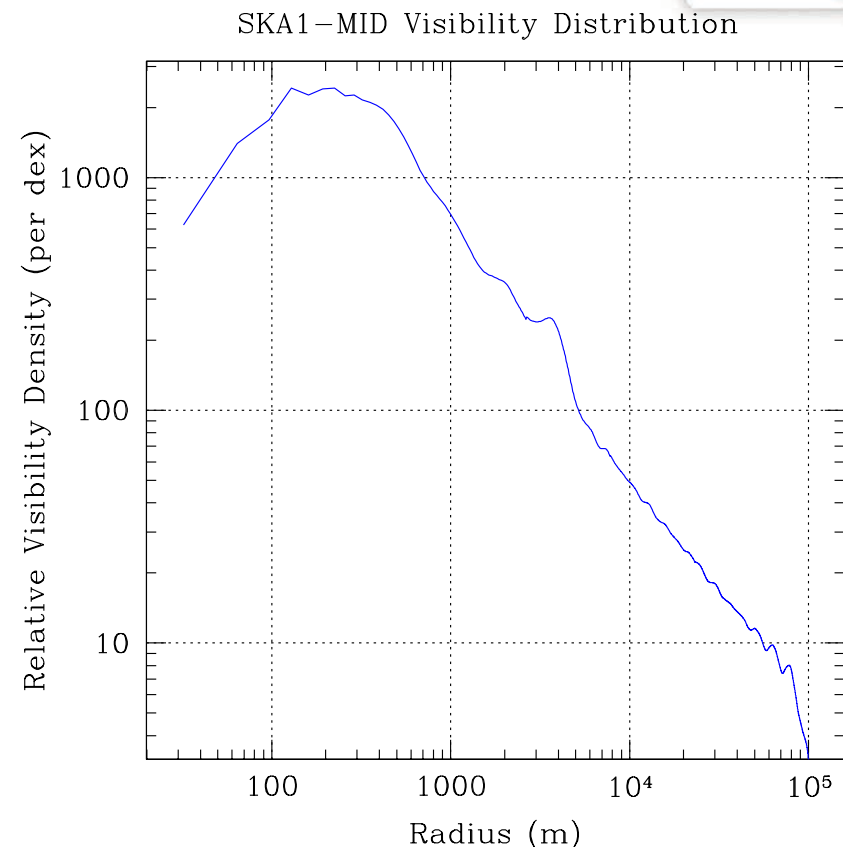
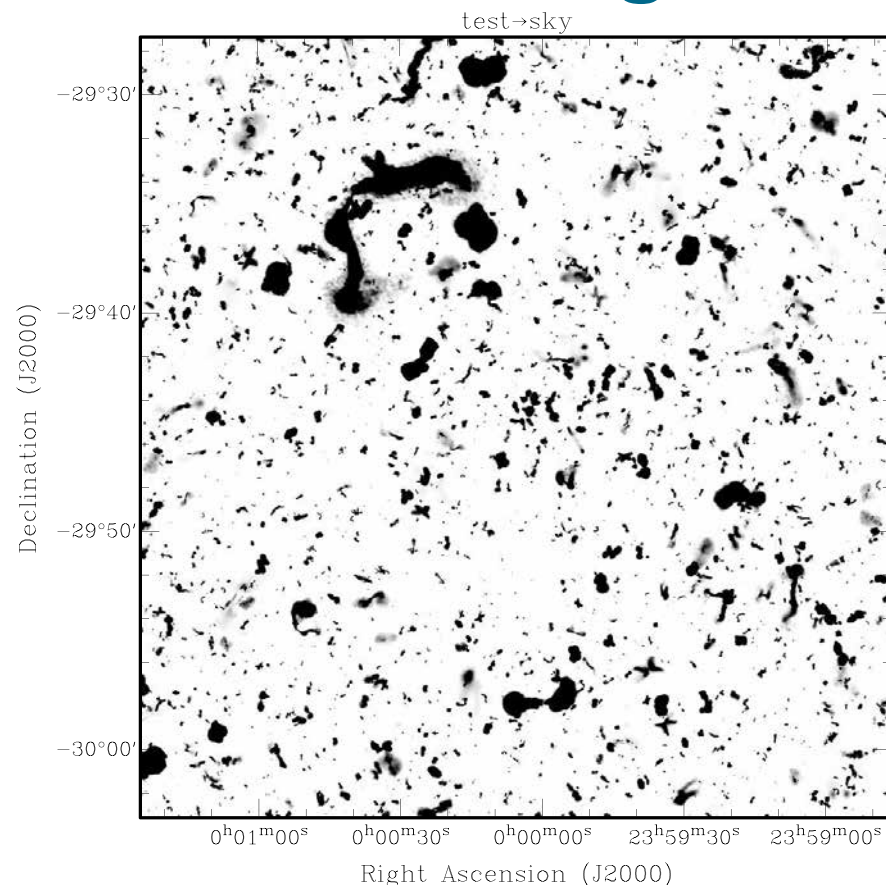
Data Challenges #1

- Sky model: in progress
 - List of sources: from T-RECS (Bonaldi et al. 2018)
 - AGNs and SFGs, spectra from 150 MHz-20 GHz
 - Image of the sky:
 - Galsim-based package by I. Harrison to draw SFGs, modelled as Sersic profiles
 - An atlas of real AGN images is used to add AGNs to the sky model



Zoom-in of AGN skymodel map

Data Challenges #1



- Telescope simulation: in progress
 - MIRIAD-based simulation code
 - Using actual SKA dish voltage pattern and SKA1-Mid configuration
 - Have developed new gridding algorithms to cope with data density contrast vs scale

Science Meetings

- 2018 IAU – GA, 20 – 31 August
 - Great event, thanks to all who assisted!
- 2019 SKA Science Meeting and KSP Workshop
 - Please register now!
 - Web site: <https://indico.skatelescope.org/event/467>
- 2019 EWASS call for proposals
 - 9 September 2018 deadline
 - One (last minute) submission led by Chiara Ferrari and Jeff Wagg
 - Will still coordinate on programme!
- 2020 URSI – GA, 29 Aug – 5 Sept.
 - Call for workshops/sessions



Community Updates

- Upcoming SWG/FG Meetings?
 - Cosmology: 13/14 September, Turin
 - EoR/CD: 24/26 September, London
 - Scintillometry Workshop: 22/26 October, Shanghai
 - HI PHISSC: 11/13 February, Perth
 - FRBs: week of 18 February, Amsterdam
 - Others?
- Updates from participating SWG/FG Chairs
 - ????

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