Science Activity Updates

• Science Data Challenge Update (Anna)
• Construction Proposal
  • SWG review of science sections ongoing
• Round table SWG updates (All)
• AOB
SDC update

Science team
- Philippa Hartley
- Lara Alegre

Operations team
- James Collinson
- Anna Bonaldi
- Robert Braun
- Rohini Joshi
SDC1 update

- SDC1 paper submitted to MNRAS
- SDC1 scoring code re-implemented as a python package (SKA SAFe software development, J. Collinson)
- Framework in place for the scoring of the next challenge
## SDC2 status

<table>
<thead>
<tr>
<th>Task</th>
<th>Status</th>
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<tbody>
<tr>
<td>Dataset</td>
<td>Sharing prototype HI and continuum data for feedback through HI SWG chairs</td>
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<tr>
<td>Computational resources</td>
<td>Progressing agreements with HPC facilities to provide computational resources for the challenge</td>
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<tr>
<td>Supporting website</td>
<td>Site under construction containing links to the test data, instructions, details of the HPC facilities, leaderboard, links to discussion forum, etc.</td>
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<tr>
<td>Scoring code</td>
<td>SDC2 scorer to be available from the start of the challenge, for teams to self-assess their performance</td>
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SDC2 dataset

- Prototype HI cube (3500 channels) and continuum cube (9 x 50 MHz) ready
- HI data product includes imperfect continuum subtraction (0.1% RMS correlated over 10 MHz red noise as test case)
- 35 X 35 arcmin cubes being shared with a few HI SWG representatives for feedback

Continuum with noise addition and PSF convolution.
SDC2 dataset

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HI sky before noise addition and PSF convolution. Red symbols are “detections” in noisy cube with some default search parameters.
SDC2 access and processing

Description
Provide access to different cluster facilities to assist the users on solving the challenge

Main goals
• Test and put in place strategies that take a step forward to deal with the real SKA data
• Exploring prototyping centralized data capabilities

Benefits

Users
• Provides Computing resources for the users
• No need to download the data
• Prepare the scientific community for future SKA practices

SKA
Tests SRC Prototyping
• Data access and transfer
• Containerization
• Access and security
• Protocols
Possible outcome with the challenge: pipelines

Clusters
Specialized in different tasks

Supporting
Access and usage instructions

Teams
allocated to different clusters
SDC2 Supporting page

- Overview of the Challenge
- Computing resources
- Submission templates
- Scoring code installation
- Joining option
- Linked to a discussion/support platform
- Timeline

- SKA Google Suite accounts
- Linked to the official SKA astronomers Challenge page
- SKA domain
- User-friendly
- Allow internal and external collaborations
Scoring code python package
Undergoing testing, to be distributed via PyPI

A package providing tools for the SKA Science Data Challenges.

Project description

Science Data Challenge Scoring Code API

The SKA Science Data Challenge #1 [https://astronomers.skatelescope.org/ska-science-data-challenge-1/] tasked participants with identifying and classifying sources in synthetic radio images.

In addition to the synthetic images, participants were provided with a section of the 'truth catalogue' of sources used to generate the artificial data. Comparing the truth catalogue with the 'submission catalogue' produced by a participant's solution would provide a means of determining the success of the solution.

To evaluate the accuracy of the results, a program was developed to cross-match sources between the submission and truth catalogues, and calculate a 'score' based on the result of this cross-match.
SKA Science

• Updates by SWG
  • ....
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