

MWA Call for Proposals – 2016-B semester

29 May, 2016.

To: Prospective users of the Murchison Widefield Array (MWA)

From: MWA Director (Dr. Randall Wayth)

This document constitutes the MWA Call for Proposals for semester 2016-B (Oct 1, 2016 – Dec 31, 2016).

Information for prospective MWA users is contained in the second MWA Announcement of Opportunity (AO) at: <http://www.mwatelescope.org/images/documents/MWA-AO-02.pdf>

Prospective users are encouraged to read the AO before preparing a proposal for MWA observing time. An important addendum to the second AO document, pertaining to the availability of the MWA Voltage Capture System, is also available. Prospective users interested in the Voltage Capture System are encouraged to read the addendum:

<http://www.mwatelescope.org/images/documents/MWA-AO-02-addendum.pdf>

Prospective users should also review the results of the allocation of observing time for previous MWA observing semesters (2013-A through to 2016-A) at:

<http://www.mwatelescope.org/index.php/astronomers>

This Call for Proposals is for the allocation of 800 hours of observing time in the Guaranteed Time and Open Access categories, during the period October 2016 to December 2016. This observing period is designated 2016-B. Note that the availability of the telescope for general use is restricted to the last quarter of the calendar year due to the ongoing MWA phase 2 upgrade. The array configuration will also be changed compared to previous semesters as outlined below.

Please complete the following proposal template, adhering to the page limits indicated (minimum font size of 12 pt). Send the completed form as a PDF file to the MWA Director (MWA-Director@curtin.edu.au), as indicated on the form by the deadline: 30th June 2016

Please adopt the file name convention for the PDF as follows:

FIRST.LAST.X.2016-B.pdf

Where: FIRST = lead author first name (capitalised) LAST = lead author last name (capitalised) X = project number for this lead author, starting from 1 (i.e. if the lead author submits proposals for more than one project, X=1, 2, 3, etc)

To: MWA Director Dr. Randall Wayth, Curtin University. MWA-Director@curtin.edu.au

From: [INSERT PROPOSAL LEAD INVESTIGATOR NAME HERE]

RE: Proposal for MWA observing time 2016-B

Part A – Team/summary information

Title of proposal:

Area(s) of MWA science (EoR; GEG; Transients; SHI):

Members of Proposal team (list names, titles and institutions):

Category of time requested (GT or OA):

Total time requested (hrs):

Time requested that is commensal with other proposals, if known (hrs). List any known commensal proposals:

List of frequencies requested in this proposal:

List of observing modes requested in this proposal (including the spectral and temporal resolution of the correlator output required, use of Voltage Capture System etc, chosen from the options available in the second AO document and the addendum to the second AO document):

Is this a continuation of a previous proposal (if so, list project #)?:

Abstract (maximum 300 words):

Part B – Project Description

Provide a description of the project (maximum of 3 pages, including figures and references).

Please include:

- A scientific justification for the project;
- Information demonstrating feasibility against the MWA capabilities, in particular describing why the MWA capabilities are essential for the science proposed, and also how the compact configuration that is available in 2016-B including the new “hex configuration” antennas is well suited to the project;
- If this is a continuation of a previous proposal, include progress report (maximum 300 words).

Part C – Technical requirements and data management

Provide a description of the technical requirements for this project (maximum of 2 pages, including figures and references). Please include:

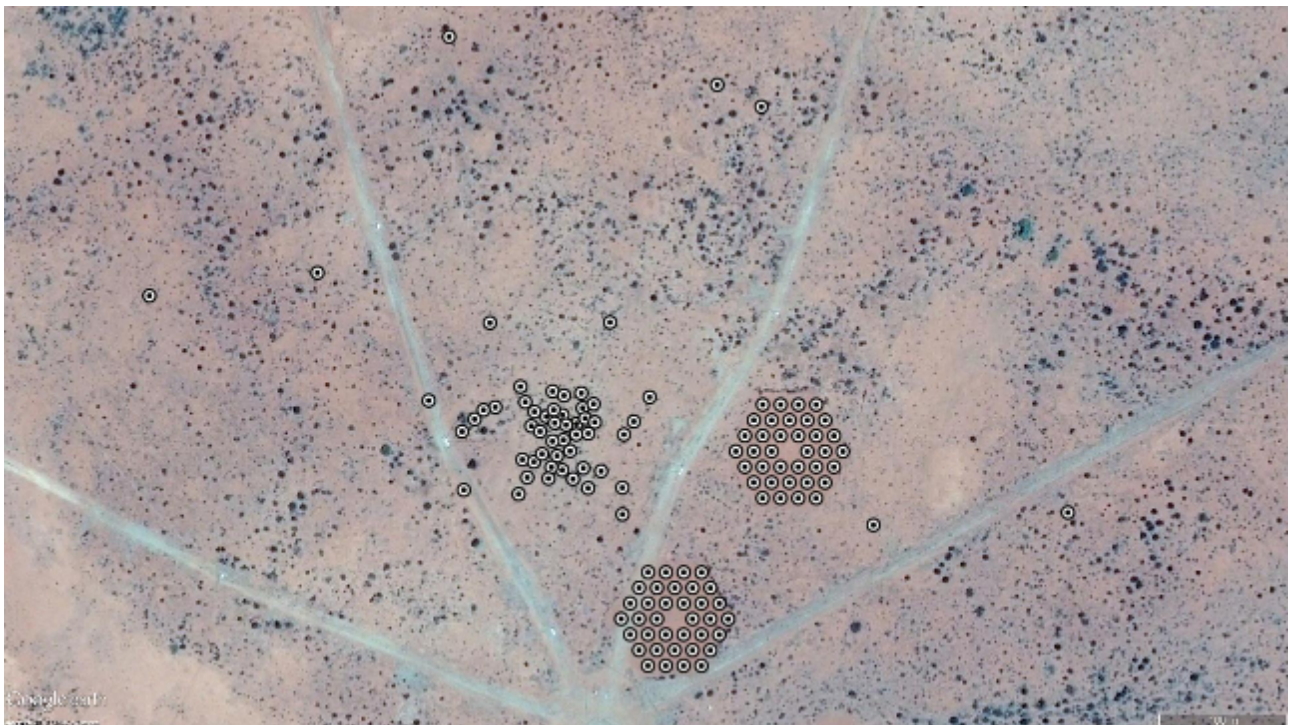
- A statement of the observing time required, broken down against observing mode (drift scan or pointed and tracked, spectral and temporal resolution of correlator output, Voltage

Capture System observations), observing frequencies, time of day, time of year, hour angle limits, coordinates or any other relevant parameters;

- A description of any plans your team have to release data or data products into the public domain (particularly for projects requesting in excess of 100 hours of observation time);
- A description of your plans for processing data resulting from this proposal (particularly for projects requesting in excess of 100 hours of observation time).
- If you are submitting a continuation of a previous proposal, provide a detailed description of the results and status of prior efforts.

MWA compact configuration for 2016-B

As part of the phase 2 upgrade, the MWA is adding 128 new antenna tiles, 72 of which are in a regular hexagonal configuration. During phase 2, only 128 antennas will be operational at any time, hence the array will be periodically reconfigured. During 2016-B the array will be in a compact configuration consisting of the new hexagonal configuration antennas, plus 54 antennas from the existing core region. Locations of the proposed antennas are given in an accompanying .csv file: http://www.mwatelescope.org/images/documents/Phase2_EOR_Proposed_Coords.csv



Antennas in the MWA phase 2 compact configuration. Note the scale bar bottom right which is 100m.

The bulk of the baselines for the compact configuration are a few hundred meters in length with maximum baseline of approximately 1 km. This configuration is optimised for EoR power spectrum science and users wishing to do imaging should consider their observing and data reduction strategy carefully.