

MWA Call for Proposals – 2022A Semester

19 January 2022

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

From: MWA Director

This Call for Proposals is for the allocation of observing time in the Guaranteed Time and Open Access categories, nominally during the period April 1, 2022 to September 31, 2022.

This observing period is designated 2022A and is subject to the availability of the array as per the MWA Time Allocation Policy and the successful testing of the new MWAX correlator in long baseline mode (taking place up until March 31, 2022).

The amount of available observing time will be subject to possible constraints with respect to data storage at the Pawsey Centre, as Pawsey transitions to a new physical storage system over the first months of 2022, and the MWA policies on data deletion from Pawsey are implemented over the course of 2022. These constraints may be dynamic.

As a result, no particular restrictions will be placed on the number of available hours for 2022A, but following the TAC ranking of proposals, scheduling priority will be given to the highest ranked proposals. An operational decision will be made regarding how far down the ranked list proposals will be scheduled. In the case that not all approved proposals can be accommodated, a reserve list will be formed and proposals on that list may be scheduled as availability allows.

Details of the new correlator modes available, and other technical information relevant to this Call are posted here:

<https://wiki.mwatelescope.org/display/MP/MWAX+Modes>
<https://wiki.mwatelescope.org/display/MP/New+Correlator+-+MWAX>

In particular, a simple data volume calculator is now available:

<https://ws.mwatelescope.org/data/volcalc/>

Note that the array will be in the extended configuration for the duration of 2022A. For details, please see:

<https://www.mwatelescope.org/telescope/configurations/phase-ii>

Observations with the MWA's Voltage Capture System (VCS) will also be available. Note that the VCS mode for MWAX differs from the legacy correlator. For details, please see:

<https://wiki.mwatelescope.org/display/MP/MWA+High+Time+Resolution+Voltage+Capture+System>

Users should review the results of the allocation of observing time for previous MWA observing semesters at:

<https://www.mwatelescope.org/data/observing>

Proposers are reminded that as per the MWA Data Access Policy, raw data from observations collected under Guaranteed Time is accessible to all Individual Members of the MWA Collaboration immediately:

<https://www.mwatelescope.org/team/policies>

Large Proposals

As of 2018B, projects requesting over 500 hours total observing time will be classified as 'Large Proposals', where total time is the time required for the project to be completed, over all semesters.

Large Proposals will only be available in Guaranteed Time, for teams which meet the criteria to access this time. As 500 hours is a considerable investment of Phase III time, Large Proposals will need to include an additional section to explain how data will be managed and disseminated across the MWA Collaboration. This section can be included in addition to the normal proposal page limit. More details can be found in the MWA Large Project Policy.

<https://www.mwatelescope.org/team/policies>

Rapid Trigger Mode

As of 2019B, the MWA has a rapid trigger response to allow transient science. Details of prioritisation for multiple triggers is laid out in the MWA Time Allocation Policy.

<https://www.mwatelescope.org/team/policies>

Observation Interruptions

Please note that because of the Rapid Trigger Mode, all observing proposals must indicate whether they are interruptible (for transient science cases) and what impact, if any, this would have on their science. For more details refer to the MWA Time Allocation Policy.

<https://www.mwatelescope.org/team/policies>

Submission

Please complete the following proposal template, adhering to the page limit (with minimum font size of 12 pt). There are a number of mandatory questions which must be included on the cover page of all proposals. These questions are listed below.

Before writing a proposal, please refer to the wiki guide on how to complete the technical parts of the form: <https://wiki.mwatelescope.org/display/MP/Writing+a+good+MWA+observing+proposal>

Please note that as MWAX modes can generate a large amount of data very quickly, prospective users are encouraged to discuss proposals in advance with the MWA Operations Team responsible for data archiving, in particular Data Manager Greg Sleep: Greg.Sleep@curtin.edu.au

If you are unable to access the wiki, please contact the MWA System Admin team:

registry_admin@mwatelescope.org

Science and technical justifications should be emailed as a PDF to the MWA Principal Scientist/s: scientist@mwatelescope.org

The deadline for proposal submission is **Monday 18th February 2022, 5PM AWST** (Australian Western Standard Time).

Part A – Team/summary information

Title of proposal:

Members of Proposal team (list names, titles and institutions, the PI should be listed first):

Contact Email:

Please list all student investigators:

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

Category of time requested (GT or OA):

Total time requested (hrs):

Is this a Large Proposal (>500 hours total time):

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

List any known commensal proposals:

Array configuration required: compact, extended or any:

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, Rapid Trigger Mode etc):

(MWAX correlation modes are posted here:

<https://wiki.mwatelescope.org/pages/viewpage.action?pageId=56888729>)

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

Please specify how interruptible this program is in the event of an override for transient science (max 100 words):

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;
- 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;
- If you wish to access the rapid trigger mode for transient sources please comment on the trigger details in the proposal.

Part D – Large Proposals Dissemination and Data Management Plan

For Large Proposals (>500 hours), please provide a description of the way data will be managed and disseminated across the MWA Collaboration (maximum of 1 page, including figures and references).

If you are not requesting more than 500 hours of time in total, please disregard this section.