MWA Call for Proposals – 2024A Semester

15 February 2024

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

From: MWA Director

Overview

This Call for Proposals is for the allocation of observing time in the Guaranteed Time and Open Access categories, nominally during the period April 29, 2024 to End-September 2024.

This observing period is designated 2024A and is subject to the availability of the array as per the MWA Time Allocation Policy: www.mwatelescope.org/policies

The array will be in **extended** configuration for the duration of 2024A: https://mwatelescope.atlassian.net/wiki/spaces/MWAOPS/pages/24382110/Array+Configurations

Over the course of 2024, we expect to be progressively rolling out the remainder of the Phase III upgrade, with the ambition to transition to a fully correlated 256 tiles array over the course of 2024/25. As such, it is possible that observing programs may be disrupted at various points in 2024A, as in-field work progresses. We will communicate any disruptions as far in advance as possible.

Further important information on this Call is listed below, under the headings:

1. Fringe stopping and Correlator Modes;
2. Data Retention Policy;
3. Semester Hours and Scheduling;
4. Rapid Trigger Mode;
5. Observation Interruptions;
6. Guidelines; and
7. Submission.

1. Fringe Stopping and Correlator Modes

Fringe stopping is a process of keeping the correlation pointing centre at a fixed RA/Dec, allowing the use of longer correlator integration times and lower frequency resolutions (depending on the science case), significantly reducing the volume of visibilities produced. Fringe stopping was an opt-in process for 2023A and is the default mode of correlator operation from 2023B onwards.

The default fringe-stopping average is 40 KHz/2 s. PIs can opt for a different set of averaging parameters if they wish but must be accompanied by a brief justification in doing so.

Details of fringe stopping, the MWAX correlator modes, and other technical information relevant to this Call are posted here:

https://mwatelescope.atlassian.net/wiki/spaces/MP/pages/24970519/MWAX+Fringe+Stopping

https://mwatelescope.atlassian.net/wiki/spaces/MP/pages/24970246/MWAX+Correlator+and+VCS

https://mwatelescope.atlassian.net/wiki/spaces/MP/pages/24973003/MWAX+Modes

2. Data Retention Policy

Following all proposal submissions for this Call, the MWA Operations Team will calculate the expected amount of data that will be ingested to the MWA data archive in 2024A. If there is inadequate storage space in the archive to support the requested observations, the MWA Operations Team will work with the MWA Principal Scientist to identify observations for deletion and begin a consultation process with the Collaboration, per the MWA Data Retention Policy and Procedure. www.mwatelescope.org/policies

3. Semester Hours and Scheduling

The MWA's capacity to observe in Phase III is more greatly limited by the volume of data products, than available time on sky. As a result, there are no particular restrictions on the number of available semester hours for 2024A, and scheduling priority will be given to the proposals ranked highest by the TAC.

The implementation of fringe stopping and the MWA Data Retention Policy will mitigate the archival impact of large projects to an extent, but PIs that propose to generate significant data volumes (visibility and/or VCS data in any combination) may be asked to provide additional justification and data management planning, in the same manner described by the Large Project Policy for proposals >500 hrs. www.mwatelescope.org/policies

We encourage PIs to calculate the size of their proposed dataset using this tool: ws.mwatelescope.org/data/volcalc/

4. 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.

www.mwatelescope.org/policies

5. 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.

www.mwatelescope.org/policies

6. Guidelines

Proposers should review the results of the allocation of observing time for previous MWA observing semesters at: https://mwatelescope.atlassian.net/wiki/spaces/MP/pages/24969540/Observations

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. www.mwatelescope.org/policies

Before writing a proposal, please refer to the wiki guide on how to complete the technical parts of the form: https://mwatelescope.atlassian.net/wiki/spaces/MP/pages/24970224/Writing+a+good+MWA+observing+proposal

If you are unable to access the wiki, please contact the MWA System Admin team: registry_admin@mwatelescope.org

7. Submission

Please complete the following proposal form: https://form.jotform.com/230436931661051

You can save partially completed proposals for later submission, or access your previous proposals, by creating a free jotform account.

The deadline for proposal submission is **Friday 15 March 2024, 5PM AWST** (Australian Western Standard Time).

Any questions regarding proposal submission can be directed to the MWA Principal Scientist/s: scientist@mwatelescope.org