



National Radio Astronomy Observatory

520 Edgemont Road
Charlottesville, VA 22903 USA
434.296.0211 | Fax 434.296.0278
www.nrao.edu

Memorandum: Response to the White Paper on ALMA Time Domain Science

Memo Number: 1

Status: DRAFT

Prepared by:	Organization:	Date:
Anthony Remijan (NA ARC Manager)	NRAO	2017-07-13
Approved by:	Organization:	Date:
Released by:	Organization:	Date:

Change Record

Version	Date	Affected Section(s)	Change Request #	Reason/Initiation/Remarks
1.0	2017-07-13	All		New

MEMORANDUM

To: ANASAC and members of the Time Domain Special Interest Group
From: Anthony Remijan (NA ARC Manager)
Date: July 17, 2017
Subject: White Paper Response

At the ANASAC f2f meeting held on 31 May, 2017, a white paper entitled “Enabling New ALMA Science with Improved Support for Time-Domain Observations” authored by The ALMA Time-domain Special Interest Group was brought to the attention of NA ARC management. This memo is a response to the recommendations posted in that white paper and we would like to thank the special interest group for raising these concerns and hope the recommendations and initiatives documented here are satisfactory in providing the start of real time domain science to ALMA.

Any additional information about ALMA capabilities with regards to Time Domain science can be directed to the NA ARC Manager, Anthony Remijan (aremijan@nrao.edu) or submitted through the ALMA Helpdesk at <http://help.almascience.org>.

In general, ALMA Capabilities have improved greatly over the past 2 cycles with regards to time domain science and many of the concerns and recommendations posted by the Special Interest Group have already been implemented or will be implemented for the start of Cycle 5 starting 01 October 2017.

Specifically, from each highlighted recommendation:

“ALMA support all time-critical observations, regardless of the size of the proposed time window”

- As specified in section 2.2 and section 4.1 of the ALMA Cycle 5 Proposer’s Guide: The 14-day minimum tolerance for specification of time constraints has been removed.

“...support for such proposals include ones whose precise time constraints cannot be known at the time of proposal preparation,...”

- As specified in section 4.2 of the ALMA Cycle 5 Proposer’s Guide: Target of Opportunity (ToO) Proposals should be submitted for observations that can be anticipated but whose targets and time of observation is not known in advance.

“...ALMA to work to establish joint proposal agreements with other major astronomical observatories....”

- This recommendation has been noted and Science Operations are investigating the feasibility of such a formal request (i.e. in the same spirit as VLBI) but other informal agreements are also strongly encouraged and often accommodated (e.g. Solar and VLA observations).

“...ALMA devise a policy to allow rapid analysis for ToO observations.”

- Starting in Cycle 4, raw data can be made available for Target of Opportunity, Triggered or other types of time critical observations that requires follow up/subsequent observation based on the initial observation. The goal is, as always to provide quality assured data to the investigators and eventually this will be provided. However, in cases where followup observations may be triggered, if it is expected that the Observatory cannot provide appropriate feedback to the PI in 3 days or less, the ARC manager of the relevant region, in consultation with the ALMA Director, can elect to release the raw data to the PI for their evaluation and potential trigger of follow up observations.

“...ToO triggers be prioritized ahead of engineering and array development activities.”

- ToO are one of the highest ranked types of proposals for scheduling and based on array element availability (and weather constraints) those proposals will be executed with highest priority.

“...establish protocols to ensure efficient communication between PIs and observatory staff when ToOs are triggered.”

- Starting in 2017 July, a dedicated Helpdesk department will be set up so that AoDs can directly interact with PIs for all time critical observations.

“...ALMA endeavor to streamline response to ToO triggers such that the characteristic response time may be reduced from 48 to 24 hours.”

- Upon the trigger for a PI, an email is sent to P2G staff worldwide and DSO management at the JAO and the corresponding scheduling block is prepared within hours of the trigger.

“...limitations on long continuous observations be lifted.”

- Depending on the science case and technical feasibility, continuous observations have taken place in Cycle 4 longer than 5 hours. If well justified in the both the science and technical justification, PIs working with their respective ARCs can set up such observations on a “best efforts” basis.

“...Observing Tool be modified to aid the planning of long, continuous observations...”

- The time estimate of any OT Project can be overwritten by the PI and the actual time needed to conduct the observation can be entered directly and justified in the technical justification. As such, no further development is needed on the OT.