



Smithsonian Astrophysical Observatory

Date: 11 August 2014

SMA Advisory Committee

Charles Gammie, Michel Guelin, Andrew Harris (Chair),
Karl Menten, Richard Plambeck, and Jean Turner

I know you all have very busy schedules, and we have drawn heavily on your time. So, first let me thank you for making time from to review the status of the SMA and provide guidance for the future. Charles and I have both read your report thoroughly, appreciate and welcome your thoughtful comments and the guidance provided. I will share the report with the SMA Steering Committee at our meeting later this month.

You correctly point out that postdoctoral fellows and students are very productive elements of the observatory, and express concern that the number of fellows funded by the SMA is at an all time low. All indications are that, in the absence of cuts to the SMA budget, we will be able to increase the number of SMA fellows during the coming year. I am also happy to report that the Charles Hull (Jansky Fellow) will begin work with the SMA this fall.

SMA staffing levels have been a concern for some time now, especially at the observatory site, where it is difficult to attract personnel of the right skill set. I am happy to report that since your visit, we have recruited an electrical technician; and we have succeeded in recruiting George Nystrom to review and provide guidance on potential antenna maintenance issues. However, while we do have a vacancy for a mechanical engineering technician position, that position remains unfilled. In addition

The area of digital signal processing is an area in which we have, thus far, had limited staff, and I am happy to report that we are offering an additional observing bandwidth for the upcoming semester using the SWARM correlator at half-speed. We are also preparing paperwork to recruit a full-time DSP engineer to help further that effort.

We really welcome the guidance you provide in relation to establishing a route through which large programs can be proposed to, reviewed, and executed at the SMA. This is an area in which we have had significant debate in order to try to define an evaluation process that provides serious review by topical experts, which

is in concert with the usual SMA time allocation process. We have also agonized over the amount of observing time to allocate to large programs, your recommendation of 20 - 40 % seems entirely reasonable; as does the recommendation to provide a route through which short programs could be received, reviewed, and executed effectively. As you correctly point out, this will provide a parallel path to that of Director's Discretionary Time and will enable other projects both at the SMA and other observatories.

I too am saddened by the fact we dropped supporting 690 GHz observations, but welcome your support in strongly endorsing plans to add a second set of receivers that will enable dual polarization over the 210 - 270 GHz frequency range. As you correctly point out, this is essential in support of future EHT science, and will enhance regular observations at the SMA.

Your comments in relation to partnerships and the possible sale of observing time are particularly welcome, as we certainly do not wish to under-sell the SMA. With that in mind, we have been working to establish an accurate costing should the right opportunity arise.

I was personally disappointed to hear that the SMA data archive is not particularly user-friendly and that archival SMA data is not readily useable. You correctly point out that an archive that is easy to use and contains metadata in a searchable form would be useful to the wider community. The SMA data archive falls under the umbrella of the Radio Telescope Data Center, and is not directly under SMA control. I have, however, decided to enlist the help of Glen Petitpas (he examines SMA data quality on a daily basis) to develop a pathway through which SMA archival data, in useable format can be made available to the wider community.

Of course, with ALMA becoming more productive day-by-day, we do need to develop a long-range plan for the SMA. We will remain vigilant of ALMA's ever-increasing capabilities and plan accordingly.

Once again, many thanks for making the time to review the SMA and provide us with considered, and much appreciated, guidance for the future.

Sincerely,

Ray Blundell, SMA Director