User Base Metrics

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ALMA is intended for all astronomers, not just interferometry experts. In order to know how well we are doing in attracting non-expert proposers (and indeed proposers of all expertise levels in all domains and fields), and their success at acquiring time and publishing ALMA data, we need to gather data on expertize levels. To date we have done this via the yearly ALMA user survey, however this is unsatisfactory as a long term solution since only about 10% of ALMA proposers respond to the survey.

A new set of statistics is envisaged that will be based on the ADS records of all ALMA proposers. NRAO currently keeps publication statistics for all the NRAO instruments and scans all ADS articles for that purpose. The new plan expands on the data that will be gathered from these articles. In brief we will gather anonymized and protected data for each ALMA proposer, including:

- Date of first journal paper publication, providing a measure of overall experience
- For each of their papers since 2000:
    o Author number (eg: first, 2nd, 3-6, 6+) to assign a weight to the paper based on the presumed level of contribution by the scientist
    o Type of data presented, providing a measure of expertize used to write the paper
    o Observatories used, providing information on the more specific wavelength / technique expertize used, as well as building usage records for specific observatories

When coupled with information on each ALMA proposal, including investigator number, proposal success, etc. we will build a database on the changing user base.

Metrics that can be produced from such a database will include the percentage of novice relative to experienced users who propose each year, and who are successful each year; repeat proposers; changing demographics, etc.

To begin the data gathering there will be an initial push up to gather all the data back to 2000 on all current proposers, then for each Cycle an update will be required. The experience level of a given investigator will of course change with time.

There are some shortcomings to address, including the issue that we will mis-characterize some peoples expertize by only going back to 2000, particularly the more senior people. We will also mis-categorize contributions to papers for which the author order is not dictated by contribution. We welcome suggestions for improving the metrics plan.