

ASAC GENERAL CHARGE

The ALMA Science Advisory Committee (ASAC) advises the ALMA Board on major issues raised by the Board, or by the Project Scientist in consultation with the Board, that affect the science capabilities of ALMA and that require decisions to be made or priorities to be set regarding project tasks and resources. The ASAC shall be kept informed of progress and developments in ALMA through periodic reports and briefings provided by the Joint ALMA Office and shall meet at least twice a year. Reports of the ASAC's deliberations shall be made in writing to the Board by the Chairperson of the ASAC following each Committee meeting, on a schedule specified in advance by the Project Scientist. The Project Scientist shall serve on the Committee *ex officio*.

Charge for ASAC Meeting 1: 2-3 April 2003, Grenoble, France

1) Calibration: The ASAC is asked to review the current status of the ALMA Calibration Plan. The ASAC should consider whether the goals of the plan are reasonable, whether the correct strategies are being followed, whether the resources devoted to this task are adequate to fulfill the goals, and suggest how the goals should be prioritized.

2) Configuration Design: ALMA configurations up to 4.5 km baselines have recently been defined. The ASAC is asked to comment on the options which remain available for longer baseline configurations, and, in particular, to consider the possible performance tradeoffs between the maximum-resolution and intermediate baseline configurations.

3) Baseline Correlator: The ASAC is asked to comment on the scope of the proposed Baseline Correlator upgrade, considering the most recent available information on cost and schedule. The ASAC is asked to comment on the consequences of this upgrade on the averaged ALMA data rates.

4) Front End: The ASAC should comment on the completeness and adequacy of the high level specifications of the receivers, and on their relative importance in terms of science return.

5) Software: The ASAC is asked to evaluate the results of the IRAM-AIPS++ tests (Phases I, II and III), and to comment on their implications for the ALMA software. The results of AIPS++ testing at NRAO should be considered as part of this evaluation. Preliminary results from the Software PDR may be available at meeting time (though probably not in advance) and should also be considered if relevant.

6) Inhomogeneous Array: The ASAC is asked to discuss the impact on development, commissioning, and scientific performance of using two different 12m antenna designs in the ALMA array. Issues the ASAC is requested to consider include the impact of an inhomogeneous array on (i) the phase stability of the array, and its dynamic range and other imaging characteristics; (ii) operations and maintenance costs; (iii) software development schedule and costs; and any other issues the ASAC feels the Board should be aware of.