



NATIONAL RADIO ASTRONOMY OBSERVATORY

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To: AD meeting
From: John Webber
Subject: Status reports

Amplifiers

Keeping up production of amplifiers needed for receiver builds in Socorro. With Marian's departure on LOA for a year, development of InP amplifiers below 3 GHz will proceed slowly.

SIS Mixers

Have successfully integrated a preamp with a 230 GHz mixer to give good noise performance across the ALMA band; flat noise over 4-12 GHz. 230 GHz sideband-separating, balanced mixer, a goal for many years: poor performance traced possibly to a grounding problem with the welding equipment causing ESD; also waiting for a new wafer.

LO Multipliers

80-240 GHz tripler needed for test receivers as well as final receivers: components are close to being fabricated and first tests are expected in March. Prediction with 50 mW input is more than 10 mW output at band center, more than 1 mW over 90% of ALMA band requirement; predictions from a redesign are that it should be possible to generate more than 10 mW over the whole ALMA band.

Correlator

Expect to ship ALMA test correlator next week.

Have in hand populated prototypes of FIR filter (already largely tested), Station Card, and Long Term Accumulator, all undergoing tests. Full test fixture for Station Card and LTA is being assembled. Custom correlator chip design is undergoing a final review of the schematics prior to authorizing fabrication of prototypes.