

# ALMA Science

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## What is the tested capability of ALMA for bandpass calibration precision?

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The bandpass stability has been tested during 2013 and 2014 for Bands 3, 4, 6, 7, 8, 9, and 10 with 21-35 antennas. The amplitude variation is estimated to be <0.1% for Bands 3, 4, and 6, and <1% for the other Bands. The phase variation is estimated to be <0.3 deg for Bands 3, 4, 6, and 7, and <1 deg for Bands 8 and 9. (At Band 10, most of quasars do not yield signal-to-noise ratios good enough for accurate bandpass calibration.) Dependence on time is relatively small compared to random noises. The nominal bandpass accuracy is <0.2% and <0.5 deg over the spectral resolution requested.

Smoothed bandpass calibration would work with the smoothing window of 125 MHz.

Related documents:

- [Technical Handbook](#), Chapter "Calibration and Calibration Strategies"
- [ALMA Technical Notes 15](#)
  
- Knowledgebase article ["What is the measured or expected bandpass stability?"](#)