

Measurements of Low- and High-band Antenna S11 at the MRO on August 30-31, 2016

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2016_243

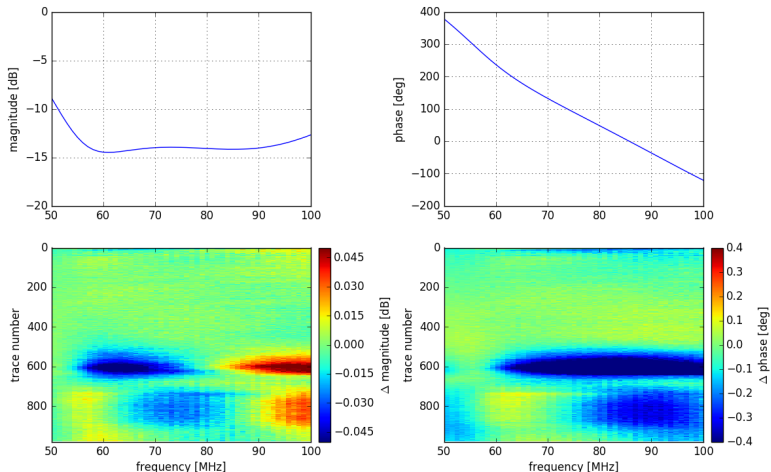


Figure: (1): Summary of the calibrated S11 measurements of the Low-Band antenna. The measurements (about 1000 traces) lasted approximately 25 hours. The top panels represent the average during nighttime measurements, corresponding to the range of traces 50-500. There are no jumps in the measurements, suggesting that there is no intermittency in the antenna or its connection to the receiver.

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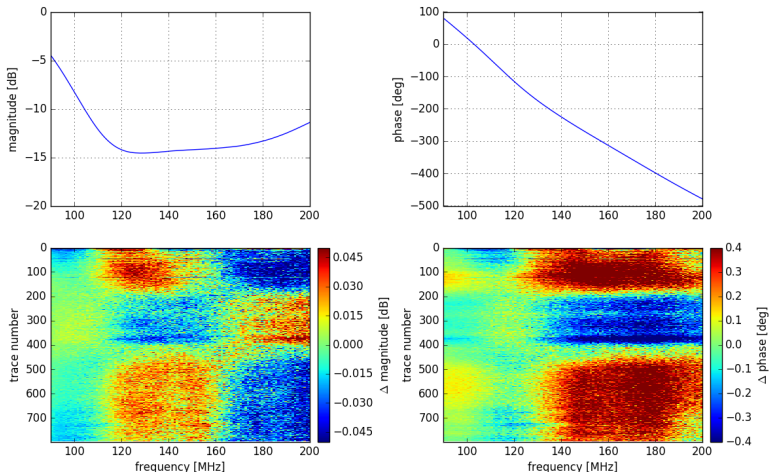


Figure: (2): Summary of the calibrated S11 measurements of the High-Band antenna. The measurements (about 800 traces) lasted approximately 20 hours. The top panels represent the average during nighttime measurements, corresponding to the range of traces 200-600. The noise observed here is higher than for the Low-Band case (Figure 1) due to the higher frequencies and to the longer cable to the receiver (100 meters vs 50 meters).

Low-band Comparison

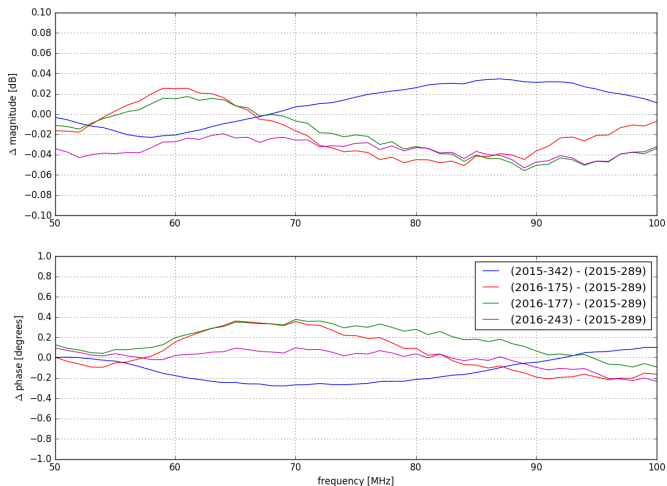


Figure: (3): Difference between the four latest measurements of Low-Band antenna S11, and the measurement from day 2015-289. The latest measurement is day 2016-243. The stability in magnitude is within ± 0.05 dB. The stability in phase is within $\pm 0.4^\circ$.

High-band Comparison

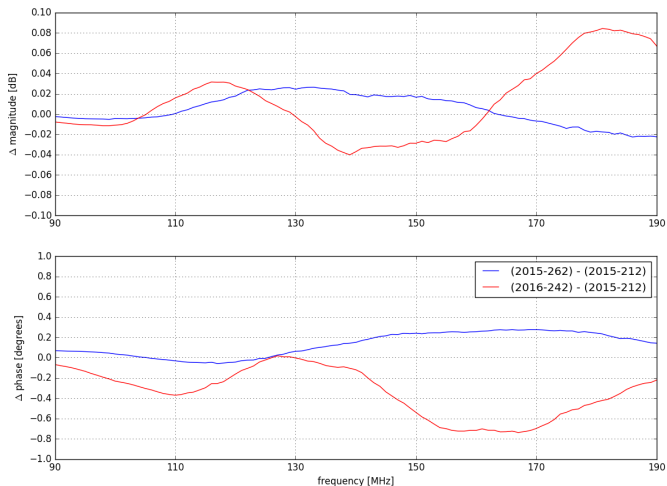


Figure: (4): Difference between the two latest measurements of High-Band antenna S11, and the measurement from day 2015-212. The latest measurement is day 2016-242. The stability in magnitude is within ± 0.08 dB. The stability in phase is within $\pm 0.8^\circ$.