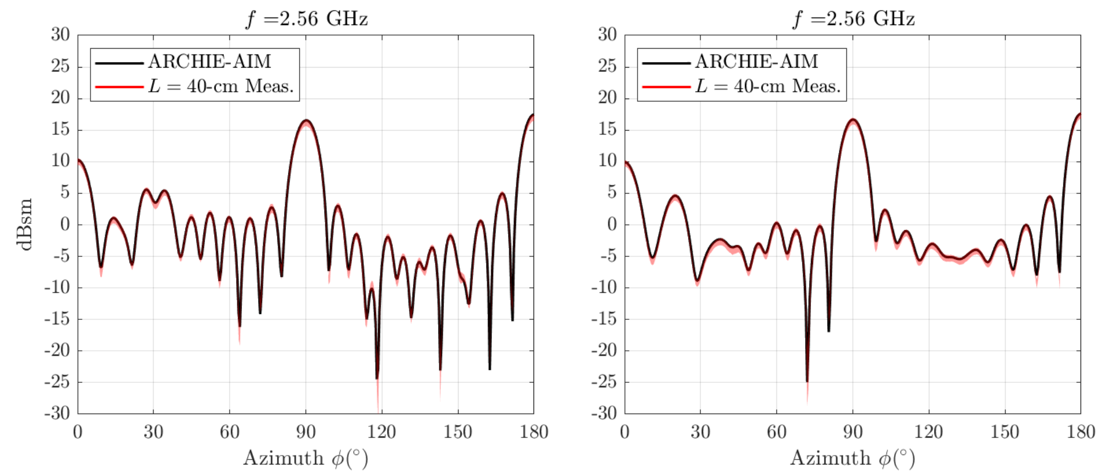

Figure 1: The HH ($\sigma_{\phi\phi,\mathrm{dB}}$, left) and VV ($\sigma_{\theta\theta,\mathrm{dB}}$, right) polarized RCS for the PEC Cylindrical-Duct Camera Box at frequency f = 2.56 GHz.

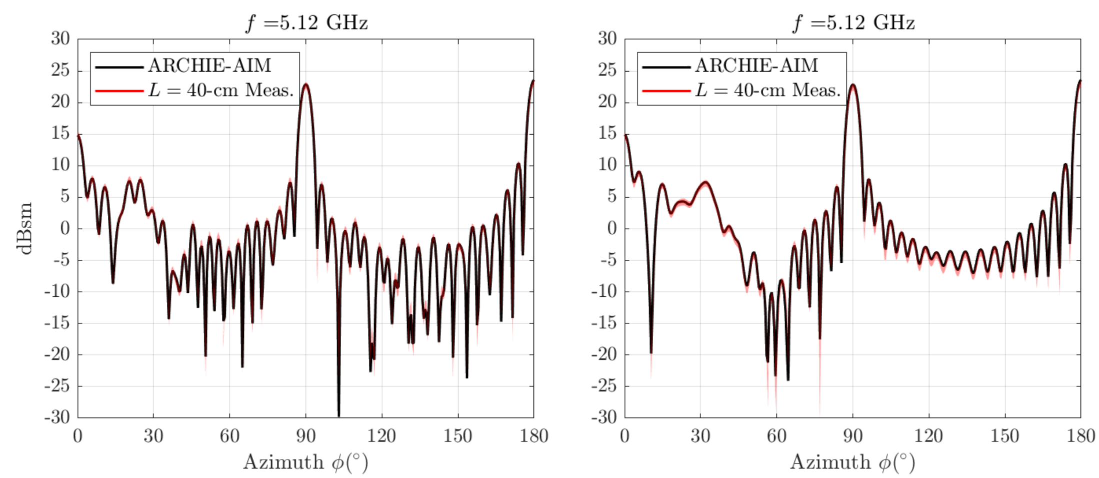

Figure 2: The HH ($\sigma_{\phi\phi,\mathrm{dB}}$, left) and VV ($\sigma_{\theta\theta,\mathrm{dB}}$, right) polarized RCS for the PEC Cylindrical-Duct Camera Box at frequency f = 5.12 GHz.

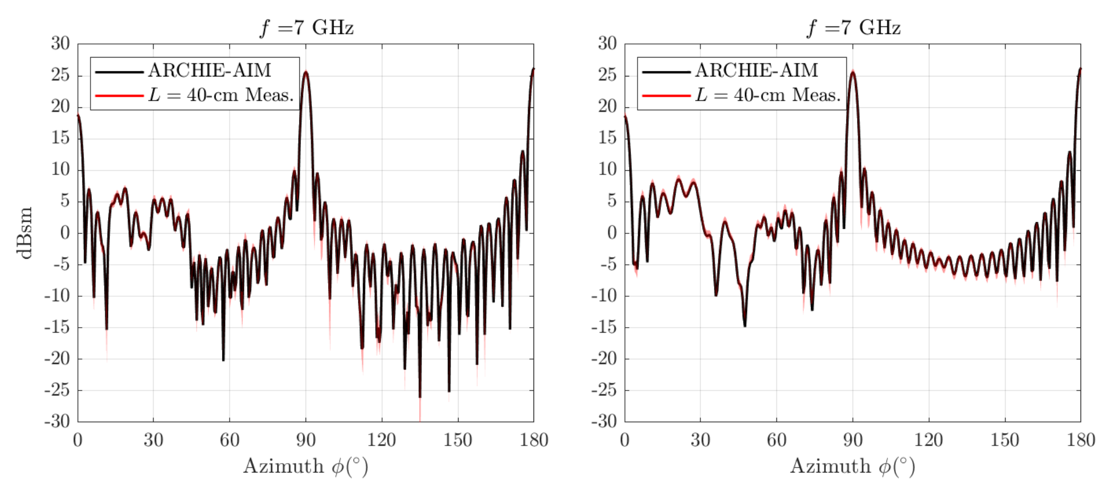

Figure 3: The HH ($\sigma_{\phi\phi,\mathrm{dB}}$, left) and VV ($\sigma_{\theta\theta,\mathrm{dB}}$, right) polarized RCS for the PEC Cylindrical-Duct Camera Box at frequency f = 7 GHz.

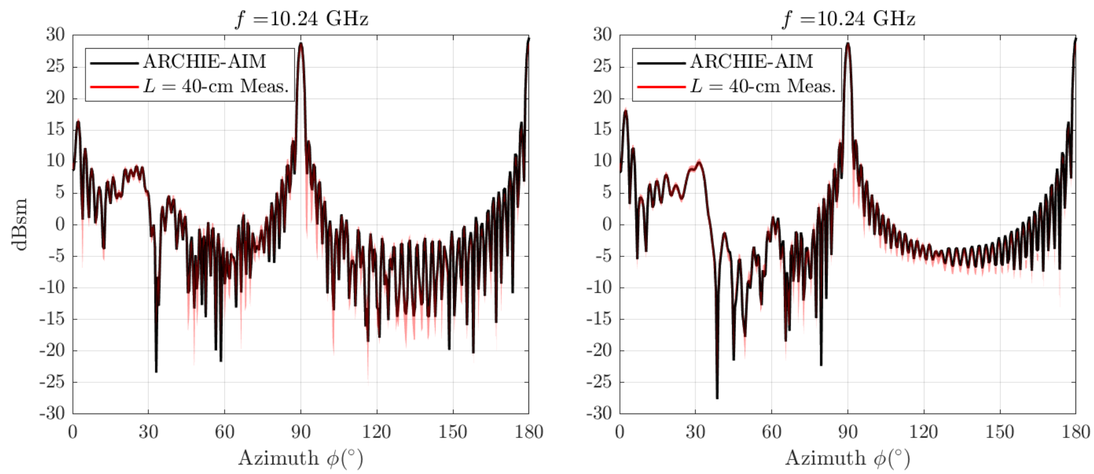

Figure 4: The HH ($\sigma_{\phi\phi,\mathrm{dB}}$, left) and VV ($\sigma_{\theta\theta,\mathrm{dB}}$, right) polarized RCS for the PEC Cylindrical-Duct Camera Box at frequency f = 10.24 GHz.

The above RCS results are that of the reference measurement and simulation data in the Benchmark Suite.

Notes

1. Both the measurement and simulation data are provided at every 0.5° in the azimuthal range.
2. The simulation data were calculated by using the ARCHIE-AIM code, a frequency-domain FFT-accelerated integral-equation solver developed at UT Austin [2]-[4].
3. Due to the target's azimuthal symmetry, similar to other azimuthally symmetric targets in the Benchmark Suite, two theoretically-identical 180° measured RCS data sets were obtained from 360° of measured RCS data in [1]. Unlike other problem sets in the Benchmark Suite, however, the two halves of the measured data are not averaged to a single measurement reference but provided as two measurement references in the Benchmark Suite to help quantify the minimum uncertainty in measured values [1]. In the above plots, the envelop of the two halves of the measured data are plotted as an uncertainty window that changes with angle.
4. The minimum-uncertainty quantification approach in [1] does not apply at 0° and 180° because only one set of data exists at these angles, i.e., the two halves of the reference measurement are identical.

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