

Figure 1: The HH ($\sigma_{\phi\phi,dB}$, left) and VV ($\sigma_{\theta\theta,dB}$, right) polarized RCS for the zero-thickness PEC plate of width W = 4 in at frequency f = 10 MHz.

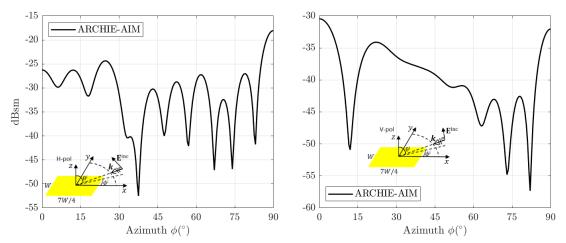


Figure 2: The HH ($\sigma_{\phi\phi,\mathrm{dB}}$, left) and VV ($\sigma_{\theta\theta,\mathrm{dB}}$, right) polarized RCS for the zero-thickness PEC plate of width W=4 in at frequency f=5.12 GHz.

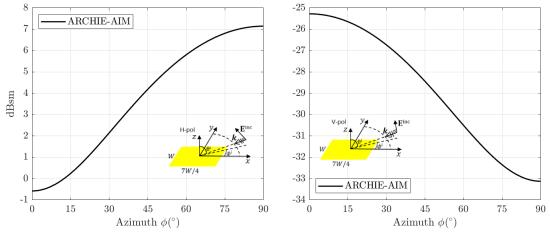


Figure 3: The HH ($\sigma_{\phi\phi,\mathrm{dB}}$, left) and VV ($\sigma_{\theta\theta,\mathrm{dB}}$, right) polarized RCS for the zero-thickness PEC plate of width W = 128 in at frequency f = 10 MHz.

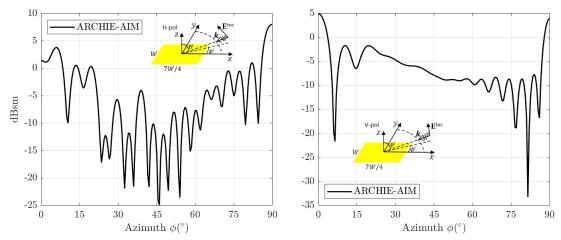


Figure 4: The HH ($\sigma_{\phi\phi,dB}$, left) and VV ($\sigma_{\theta\theta,dB}$, right) polarized RCS for the zero-thickness PEC plate of width W = 128 in at frequency f = 320 MHz.

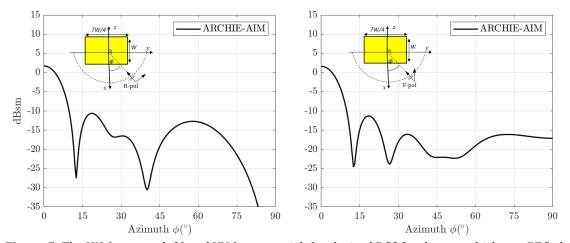


Figure 5: The HH ($\sigma_{\phi\phi,dB}$, left) and VV ($\sigma_{\theta\theta,dB}$, right) polarized RCS for the zero-thickness PEC plate of width W = 6 in at frequency f = 2.56 GHz.

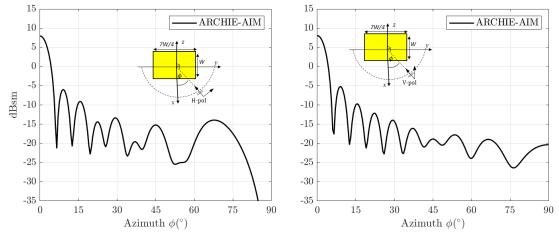


Figure 6: The HH ($\sigma_{\phi\phi,dB}$, left) and VV ($\sigma_{\theta\theta,dB}$, right) polarized RCS for the zero-thickness PEC plate of width W = 6 in at frequency f = 5.12 GHz.

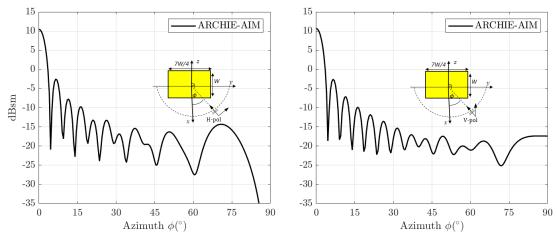


Figure 7: The HH ($\sigma_{\phi\phi,dB}$, left) and VV ($\sigma_{\theta\theta,dB}$, right) polarized RCS for the zero-thickness PEC plate of width W = 6 in at frequency f = 7 GHz.

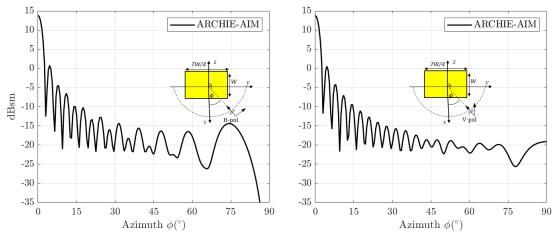


Figure 8: The HH ($\sigma_{\phi\phi,dB}$, left) and VV ($\sigma_{\theta\theta,dB}$, right) polarized RCS for the zero-thickness PEC plate of width W = 6 in at frequency f = 10.24 GHz.

Note that the zero-thickness plate is oriented differently in Figs. 1-4 vs. Figs. 5-8 as the insets show. These RCS results were calculated by using the ARCHIE-AIM code, a frequency-domain FFT-accelerated integral-equation solver developed at UT Austin [1]-[3].

References

- [1] M. F. Wu, G. Kaur, and A. E. Yılmaz, "A multiple-grid adaptive integral method for multi-region problems," *IEEE Trans. Antennas Propag.*, vol. 58, no. 5, pp. 1601-1613, May 2010.
- [2] F. Wei and A. E. Yılmaz, "A more scalable and efficient parallelization of the adaptive integral method part I: algorithm," *IEEE Trans. Antennas Propag.*, vol. 62, no. 2, pp. 714-726, Feb. 2014.
- [3] J. W. Massey, V. Subramanian, C. Liu, and A. E. Yılmaz, "Analyzing UHF band antennas near humans with a fast integral-equation method," in *Proc. EUCAP*, Apr. 2016.