## Homework #3-(5)

August 7, 2025

Show that longitudinal and transverse impedances have the following properties:

$$Z_{\parallel}^{*}(\omega) = Z_{\parallel}(-\omega) \tag{1}$$

$$Z_{\parallel}^{*}(\omega) = Z_{\parallel}(-\omega)$$

$$Z_{\perp}^{*}(\omega) = -Z_{\perp}(-\omega)$$
(1)
(2)