Ri $\begin{array}{c}
\pm = R_0 - R_i \\
\downarrow \\
\kappa_i = \frac{R_0}{R_i} - 1
\end{array}$ $R_{o/R_{i}} = 1 + t_{R_{i}}$ $ln\left(\frac{R_{o}}{R_{i}}\right) = ln\left(1 + \frac{t}{R_{i}}\right) \cong \frac{t}{R_{i}} \quad if \quad t << R_{i}$