



Applied alternating voltage: $\mathcal{E} = \mathcal{E}_{max} \cos \omega t$

Resulting alternating current: $I = I_{max} \cos(\omega t - \delta)$

Goals:

- Find I_{max} , δ for given \mathcal{E}_{max} , ω .
- Find voltages V_R , V_L , V_C across devices.

Loop rule: $\mathcal{E} - V_R - V_C - V_L = 0$

Note:

- All voltages are time-dependent.
- In general, all voltages have a different phase.
- V_R has the same phase as I .

