EECS 210 Section 2 – Lecture Summaries
Lecture 29, Wednesday, March 21, 2001

- Instantaneous power in a circuit whose signal is sinusoidal of frequency ω has an apparent frequency 2ω
- The time average of any sinusoidal signal is zero
- Average power dissipated by a passive device driven by a sinusoidal source is $P_{AV} = \frac{VI}{2}\cos(\theta_v - \theta_I)$ in Watts (W) where V and I are amplitudes of voltage and current, and θ_V and θ_I are their phases, respectively
- For fixed amplitudes V and I, maximum power is dissipated when $\theta_V = \theta_I$
- For a passive device, $0 \le |\theta_V - \theta_I| \le 90^0$
- $\cos(\theta_V - \theta_I)$ is called Power Factor, pf, where $0 \le pf \le 1$