



$$E_A'' = V_\phi + jX_q I_A$$

$$= |E_A''| \angle \delta$$

$$|I_q| = |I_A| \cos(\theta + \delta)$$

$$|I_d| = |I_A| \sin(\theta + \delta)$$

$$I_q = |I_q| \angle \delta$$

$$I_d = |I_d| \angle \delta - 90^\circ$$

$$E_A = V_\phi + jX_d I_d + jX_q I_q$$