EX: By sketching the impedance and admittance curves of series and parallel combinations of L's and C's and adding them appropriately, we can find the approximate resonance characteristics of multiple-resonant circuits. The figures show examples of these curves.

We sketch the approximate total reactance in Fig. 1 by noting that X_C dominates at low frequencies and X_L dominates at high frequencies.

We sketch the approximate total susceptance in Fig. 2 by noting that B_L dominates at low frequencies and B_C dominates at high frequencies.

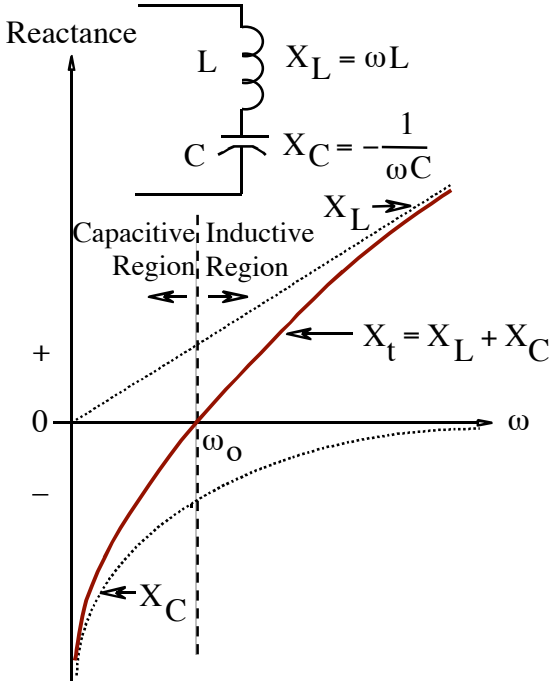

Fig. 1

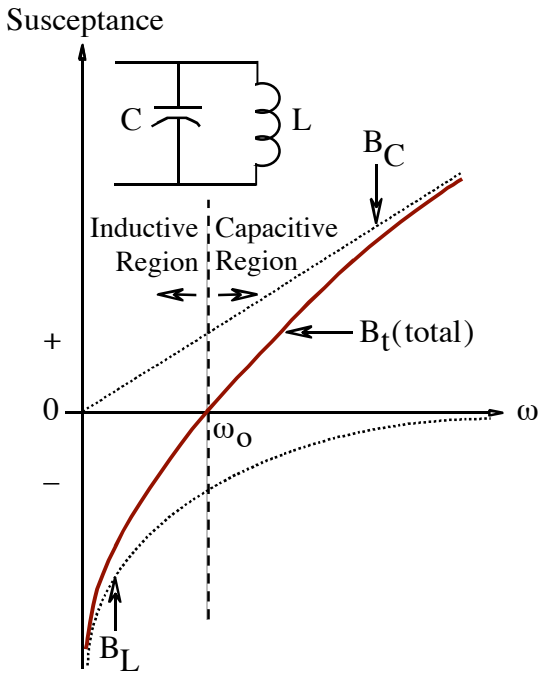

Fig. 2

We sketch the approximate total reactance in Fig. 3 by noting that X_L dominates at low frequencies and X_C dominates at high frequencies.

We sketch the approximate total reactance in Fig 4 by summing the curve from Fig. 3 and the reactance curve for C_2. We find that the reactance of C_2 forms a resonance with the reactance of L_1C_1 at a frequency below the resonance of L_1C_1. This new resonace is such that the entire circuit acts like a wire. There is also still a resonance at exactly the resonant frequency for L_1 and C_1. This resonance is such that the entire circuit acts like an open circuit, as it did before adding C_2.

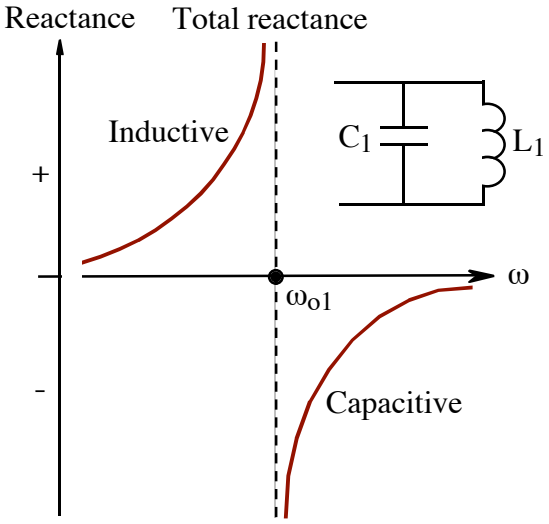

Fig. 3

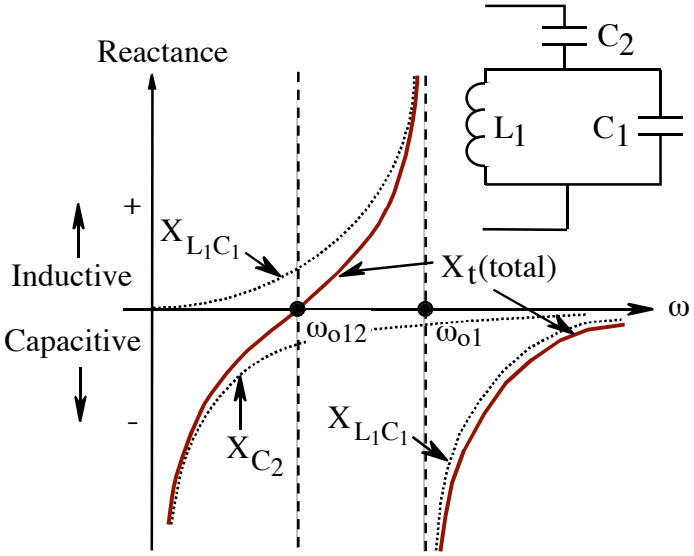

Fig. 4