

EE544 HW 5

Due 3/21/08

You may work in groups of n, 1 < n < 4

Write a program using the impedance matrix and using the ladder approach to solve the power flow for the system below – Mathcad, Matlab... your choice.

Verify Answer using Synergee

Assume Overhead and underground parameters as follows

C1 : 3 phase Overhead Primary 366400 ACSR

$$Z_{OH} := \begin{pmatrix} 0.411 + 1.021i & 0.108 + 0.443i & 0.106 + 0.327i \\ 0.108 + 0.443i & 0.416 + 0.986i & 0.109 + 0.363i \\ 0.106 + 0.327i & 0.109 + 0.363i & 0.413 + 1.006i \end{pmatrix} \text{ ohm /mi}$$

C3 : 1 Phase underground

$$Z_{ug1p} := 0.747 + 0.229i \frac{\text{ohm}}{\text{mi}}$$

