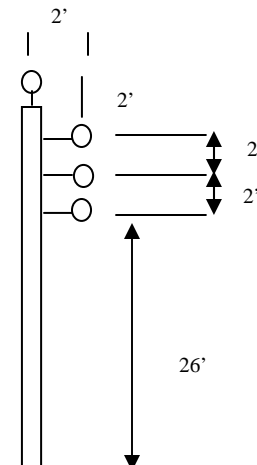
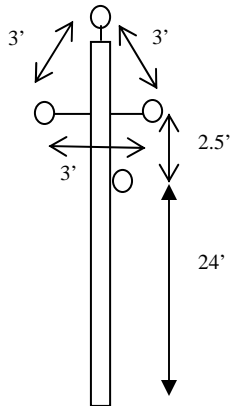


EE544 Homework 4

1.



Phases 556,500 26/7 ACSR  
Neutral 4/0

Phases 336,400 26/7 ACSR  
Neutral 336,400 26/7 ACSR

For the lines above, from HW3 compute the sequence impedance matrix first assuming that the lines are untransposed and then assuming that they are transposed. Compare the answers.

2. Consider the line on the left above. The receiving end line-neutral voltages are  $7967/-7^\circ$ ,  $7800/-132^\circ$  and  $7900/110^\circ$  V, respectively. The currents are  $79/-37^\circ$ ,  $96/-162^\circ$  and  $109/90^\circ$  A, respectively

A. Calculate the sending end line-neutral and line-line voltages using the phase domain model.

B. Calculate the sending end line-neutral using the sequence model. Assuming the line is transposed

C. Just for kicks B. Calculate the sending end line-neutral using the sequence model. Assuming the line is untransposed

3. Calculate the phase impedance matrix for the three phase cable arrangement below  
All cables are 15 kV 5-mil tape shield 350kcmil

