Final Project - Literature Review Linfeng Li, Chutao WeiECEN-5224  
Professors: Eric Bogatin and Melinda Piket-May Due Date: 03/18/2018

# **1 Problem Statement**

Accordingly Bogatin [1], between every two nets in a system, there will always be some combinationofcapacitivecoupling and inductivecoupling arising from these fringefields. Werefer to  
the coupling capacitance and the coupling inductance as the mutual capacitance and the mutual  
inductance. (...) The far-end noise voltage is related to the net coupled current through the terminating resistor on the far end. This, after all, is the voltage that is propagating down the quiet  
line in the forward direction. (...) If there is any inhomogeneity in the distribution of dielectric  
materials, the fields will see a different effective dielectric constant depending on the specific voltage  
pattern between the signal lines and the return path, and there will be a difference in the relative  
capacitive and inductive coupling. This will result in far-end noise.

# **2 Literature Compilation**

# **3 Solutions to be Investigated & Work Methodology**

# **4 Final Considerations**

**References**