Lightning Surge Protection of Transmission Lines

Abstract:

Transmission lines see different types of transient surges one common type is lightning strikes. The primary goal for protection systems is to reduce system damaging transients. One potential way is to change line spacing to change the RC parameters of the transmission lines to reduce high voltage surges.

Transmission lines are the primary distribution method for transmitting power from one location to another. These connect various pieces of equipment that are sensitive to lightning surges and protection is required to reduce replacement costs.

This presentation will provide analysis and simulation results of a single line system to view the effects of varying transmission line spacing and resulting transient effects on the lines. There will also be an overview on the operation of surge arresters and their role in protecting the system.

About the presenter:

Robert Van Singel is currently pursuing a M.S. in Electrical Engineering at Michigan Tech, and has also received his B.S. in Electrical Engineering at Michigan Tech in 2008. Work experience includes an engineering internship at L-3 Communications, Combat Propulsion Systems in Muskegon, Michigan. Areas of interest include Power Electronics, and low level system design.