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## Methodology for interference analysis using electromagnetic topology techniques

The project focuses on the effects of electromagnetic pulses on shielded and unshielded electronics in various applications, from pacemakers to guidance systems in airplanes. The research is mostly simulation based. In the research to date, simulations have been done and compared with past experiments, and were found to be quite similar. The simulation tested the effect of EMP and lightning fired through a determined aperture while watching its effects on a segment of transmission line below the surface. These simulations are based on code called CRIPTÉ (Calcul sur Réseaux des Interactions Perturbatrices en Topologie Electromagnetique). Analysis of our data includes determining transfer functions of EMP-electrical systems functions. Thus far we have seen that the EMP is much more powerful and affecting than lightning.