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Antenna and wave Engineering

Title of the Activity:

Concept of Line of Sight Propagation of Electromagnetic Waves (EM Wave) through Transmitting and Receiving Antennas.

Methodology:

Two Students are used to form Transmitting and Receiving antenna and two as obstacles between them.

Procedure of conducting the activity

A Group of Students is taken of ECE 3rd year for this activity in the Antenna and Microwave lab. The Purpose of this activity is to understand that, how the line of sight communication is possible.

Two students are made to stand in front of each other so that they can see one another and can communicate anything. Then a student made to stand between the two of less height, still they are able to communicate but if a student of more height is asked to stand between the transmitting and receiving station it will be not possible for them to communicate with each other because they cannot see one another. As is done practically with the help of two horn antenna set-ups and observing the radiation coming from transmitting to receiving stations by using CRO.

Procedures:

1. Two students form Transmitting and Receiving antenna.
2. Students are made to stand in between Transmitting and Receiving antenna to interrupt the communication.
3. First with the students of less height activity is done.
4. Secondly with the students of more height then Transmitting and Receiving antenna activity is done.

The Result and Analysis:

Student will be able to understand the concept of line of sight communication in a better way
Strength of the received wave can be observed with the help of CRO Experimentally.