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MSU PHY 482

I would like to describe and study the theory of antennas. I find this interesting because they are so important and I happen to know very little about them. The idea that some wave or signal can be sent across space and transmit an NFL game onto my tv seems fascinating to me. Antennas are used in most modern electronics, such as televisions, computers and phones and yet most people know so little about them.

In my paper I would like to give an explanation on how antennas are used in electronics and describe the electromagnetic phenomenon that take place. I would like to do this from the standpoint of maxwells equations. I hope to give a mathematical explanation for how waves are transmitted across space and then turned into a signal on a tv or cellphone via an antenna.

<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=119564> , <http://>, Constantine A. Balantis

Antenna Theory: Analysis and Design, 3rd Edition [Constantine A. Balanis]

[http://www.crectirupati.com/sites/default/files/lecture\\_notes/AWP%20Lecture%20Notes-final.pdf](http://www.crectirupati.com/sites/default/files/lecture_notes/AWP%20Lecture%20Notes-final.pdf)

<http://propagation.ece.gatech.edu/ECE6390/notes/ANT1.pdf>