

## Masters Theses May 2014-current

### Impedance Measurement of Small Antennas Over a Ground Plane Without Direct Cable Attachment

[Download](#)

[SHARE](#)

[Yutong Yang](#)

[Follow](#)

Document Type  
Open Access Thesis

Degree Program  
Electrical & Computer Engineering

Degree Type  
Master of Science in Electrical and Computer Engineering (M.S.E.C.E.)

Year Degree Awarded  
2014

Month Degree Awarded  
September

Keywords  
Antenna impedance measurement, small antennas

Abstract  
An indirect impedance measurement approach that does not require direct cable attachment or large space using a two-port network is presented. Using a straight wire monopole as an interrogating antenna and measured impedances of three calibration standards, the input impedance of a small spherical helix dipole over a ground plane is retrieved. It is found that accurate result is obtained around the dipole resonance frequency. The accuracy and sources of error are discussed.

Recommended Citation  
Yang, Yutong, "Impedance Measurement of Small Antennas Over a Ground Plane Without Direct Cable Attachment" (2014). *Masters Theses May 2014-current*. Paper 122.  
[http://scholarworks.umass.edu/masters\\_theses\\_2/122](http://scholarworks.umass.edu/masters_theses_2/122)

Enter search terms:

in this series

[Advanced Search](#)

 [Notify me via email or RSS](#)

[Browse](#)

[Collections](#)

[Disciplines](#)

[Authors](#)

[Author Corner](#)

[Author FAQ](#)

[Submit Thesis](#)

