

Research Areas of Interest

Antenna feed systems in modern satellite and terrestrial communication systems usually employ a large number of waveguide components operating at microwave and millimeter wave frequencies. Efficient and accurate design of components for such systems is a basic necessity in space application. This can be achieved by efficient computation and accurate numerical methods that are capable of handling the three essential characteristics in a design process namely modeling, analysis and optimization.

My research work during my Ph. D. concentrated in designing waveguide components such as filters, polarizer and orthomode transducers using Mode Matching Method. These components have been optimized using modified Newton's algorithms. Measurements have been carried out to verify the design of optimized components.

I am also familiar with most of the other numerical techniques in electromagnetics as I have developed codes using each one of them for certain applications and published some of them. I have researched and published on design of several microstrip antennas for RF applications using cheap substrate materials and tested their quality. I have experience in providing consultancy on Electromagnetic Interference and compatibility issues and have published articles in these areas as well.

RF and microwave require good understanding of fundamentals in electromagnetic fields. Having a keen aptitude in this area I look forward to working in design of active and passive RF and Microwave components and antennas and have directly worked on these. I have published materials in these areas independently and with my students. They have been listed in my publications.