National Institute of Technology Rourkela

Departmental Seminar

Seminar Title	: Resonant Frequency of a Cylindrical Dielectric Coated Conductor-based Dielectric Resonator Antenna.
Speaker	: Prof Sudipta Maity
Supervisor	: Prof Sudipta Maity
Venue	: EC303, Seminar Room
Date and Time	: 29 Oct 2024 (05.15PM)
Abstract	: Cylindrical Dielectric Coated Conductor-based Dielectric Resonator Antenna (CDCC-DRA) is investigated here theoretically. Mixed magnetic wall model is used here for investigation. Fundamental TM mode is investigated. A cylindrical coordinate system is used to investigate the problem. The radial wavenumber (kp) is computed using mode matching technique, whereas the wavenumber along the height of the antenna (kz) is computed by applying a magnetic wall at the surface. Incremental search method is used to find the resonant frequency by solving coupled equations. The theoretical resonant frequency is compared with 3D simulated data and published data to show the effectiveness of our theory. It is found that our theory can predict the results with good agreement compared to simulated data and published data.