

Departmental Seminar

---

Seminar Title	: Series-Fed Binomial Tapered Microstrip Antenna with Low Side Lobe Level for Automotive MIMO RADAR Applications.
Speaker	: Amrit Prasad Behera
Supervisor	: Prof Jogesh Dash
Venue	: Room No. EC - 411
Date and Time	: 03 Jan 2025 (10.00AM)
Abstract	: In this paper, a compact multiple input multiple output (MIMO) antenna system with two transmitters and four receivers (2Tx-4Rx) is designed using a five-element series-fed binomial tapered (SFBT) micro-strip antenna (MA) at 24 GHz millimeter-wave band, aimed at autonomous driving applications. A feedline configuration employing edge feeding is implemented to enhance integration capabilities with various devices. The study comprehensively evaluates a stand-alone series-fed array antenna configuration alongside two distinct MIMO antenna configurations such as traditional and sparse MIMO arrangement. The proposed SFBT-MA has a side lobe level of -23 dB with a maximum gain of 11.2 dBi. It is studied that the traditional and sparse MIMO arrangement exhibits increased SLL of - 21.44 dB and -20.78 dB respectively compared to the stand-alone antenna due to the inter-element coupling.