National Institute of Technology Rourkela

Departmental Seminar

Seminar Title	: Optimum design of Non-Quadrature phase difference coupler with unequal power division using coupled lines
Speaker	: Dr. Rakesh Sinha
Supervisor	: Dr. Rakesh Sinha
Venue	: Seminar Room, EE-205
Date and Time	: 24 Jan 2025 (5:30 PM)
Abstract	

: In modern wireless technology, the compactness of the design is an essential factor to consider. A new non-quadrature, unequal power division coupler with an arbitrary coupling coefficient using coupled transmission lines is proposed in this work. As the designed coupler consists of only three coupled line sections, it requires less area than conventional branch-line couplers. For the optimum performance and error-free transmission of signals, bandwidth should be as maximum as possible. In this designed coupler, one can get the maximum coupling coefficient bandwidth in amplitude response, phase imbalance, and amplitude imbalance graphs. The generalized phase difference coupled line coupler's design equations are derived by even-odd mode analysis.