



## The Electromagnetics Centre Seminar

School of Electrical & Electronic Engineering,  
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In Co-operation with IEEE UKRI (MTT/ED/AP/LEO)  
Societies Joint Chapter  
& IEEE University of Manchester Student Branch

### 'Design and Realization of CPW Multilayer Couplers for Broadband Applications'

By: Dr Tuyen Vo  
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- **Date: Tuesday 14 June 2005**
- **Venue: room C53 Sackville Street Building**
- **Time: 11.00 am**
- **All welcome to attend**

**Abstract:** This paper describes the design and performance of wide band multi-octave passive MMIC couplers, which uses coplanar waveguide (CPW) multilayer techniques. The multilayer couplers are fabricated on GaAs semi-insulating substrate and are reciprocal and directional. On-wafer RF measurements were carried out on the fabricated multilayer directional couplers. Multilayer quadrature directional couplers with coupling factor and isolation better 5 dB and 20 dB are realized over 10 to 30 GHz. The relative merits of the performance and implementations of these passive couplers are compared to that of an active coupler based on GaAs pHEMT devices in view of their respective applications.