TARGET

TOP AMPLIFIER RESEARCH GROUPS
IN A EUROPEAN TEAM

RF Device Modelling

1 Introduction to RF Device Modelling
2 Physical Device Modelling, Part I
3 Physical Device Modelling, Part II
4 Parasitic Elements Characterisation and De-Embedding
5 Electrical Equivalent Circuit Modelling
6 Distributed Equivalent Circuit Models
7 IMD Properties
8 Empirical Device Models: Basics
9 Empirical Device Models: Extensions
10 Modelling of GaN Devices
11 Modelling of MOSFETs
12 Modelling of LDMOS Devices
13 Modelling of HBTs: Introduction, Modelling Principles and Noise
14 Modelling of HBTs: Large-Signal Models, Measurement and Parameter Extraction
15 Behavioural Modelling Techniques
16 Large-Signal Measurements Based Modelling

Device-Level Linearization Techniques

1 Fundamentals of Device Small and Large signal IMD behaviour
2 Small and Large Signal Sweet Spots and PA operating class
3 Techniques for Understanding Large-Signal IMD behaviour
4 IMD Evolution: Load Line and Bias
5 Operating Condition Optimization for Improved Linearity
6 Nonlinear Measurement Techniques for Accurate Device IMD control
7 Specific Device-Based Linearization Techniques: Part I
8 Specific Device-Based Linearization Techniques: Part II
9 On the CAD "Measurement" of the Device's High Order Derivatives and Dynamics

Modelling for TX System Level Analysis

1 System Level Simulation Techniques - Introduction
2 Behavioural Modelling Technique: Power and Driver Amplifiers Modelling
3 Behavioural Modelling Technique: Mixer Modelling
4 Behavioural Modelling Technique: Voltage Controlled Oscillator Modelling
5 System Level Analysis by using Behavioural Modelling Techniques

RF Semiconductor Materials and Devices

1 Semiconductor Materials I – Structure and Physical Properties
2 Semiconductor Materials II – Alloys and Heterostructures
3 RF devices I – Figures of Merit and Basic Transistor Concepts
4 RF devices II - Transistor Concepts for high Frequency and High Power Applications
5 Si- and SiGe-based RF Transistors
6 GaAs and InP based RF Transistors
7 GaN based RF Transistors
8 SiC based Mircowave Diodes

TARGET is a Network of Excellence of 49 academic and industrial partners that are active **Europe-wide** in the important fields of microwave power amplifier research and production. Based on its accumulated theoretical and practical expertise TARGET offers **educational services** in the listed fields.

These particular courses provided by an international consortium of industry and universities are **tailored according to the special needs of our customers**.

The courses will be given by renowned scientists and engineers from all over Europe.

If you want to learn more about our project and our services please contact:

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Microwave Power Amplifier Design

1 Power Amplifier Fundamentals
2 Non-Linear Characterisation and Modelling Techniques
3 Non-Linear Analysis Methods
4 Power Amplifier Design Techniques Overview
5 High Efficiency Power Amplifiers Design
6 Combining Techniques
7 Thermal and Packaging Issues
8 Linearisation Issues in a Power Amplifier
9 Foundry Realisation and Design Rules
10 Power Amplifier Design Examples

MW PA Linearisation Techniques

1 Overview of Microwave Power Amplifier Linearisation Techniques
2 Circuit Level Microwave Power Amplifier Linearisation
3 Microwave Power Amplifier Feedback Linearisation
4 Microwave Power Amplifier Feedforward Linearisation
5 Microwave Power Amplifier Predistortion Linearisation
6 Other System Level Microwave Power Amplifier Linearisation Techniques
7 Implementation Issues of Microwave Power Amplifier Linearisation Techniques
8 Microwave Power Amplifier Linearisation Evaluation Criteria
9 PA Linearisation in some Existing and Upcoming Wireless Communication Systems

RF Device Characterisation

1 Introduction to RF Device Demiconductor Devices
2 Calibration Issues, Static DC and S-Parameter Characterisation
3 Pulsed DC and S-Parameter Characterisation
4 Extrinsic Characterisation and De-Embedding
5 Nonlinear Vector Network Analysis
6 Source and Load Pulling Techniques
7 Power Amplifier Measurements
8 Noise Characterisation
9 Thermal Characterisation

TARGET is a Network of Excellence under the 6th Framework programme of the European Commission