

## CMOS ANALOG CIRCUIT DESIGN LECTURES

Lecture Number	Section Number	Topic
010	1.1	Introduction
020	2.1	Submicron CMOS Technology
030	2.2	Deep Submicron CMOS Technology
040	2.3	Ultra-Deep Submicron CMOS and BiCMOS Technology
050	2.4	PN Junctions and CMOS Transistors
060	2.5	Capacitors
070	2.6	Resistors and Inductors
080	2.7	Latchup and ESD
090	3.1	Large Signal MOSFET Model
100	3.2	MOSFET Capacitor Model and Large Signal Model Dependence
110	3.3	Small Signal Models, Noise, Passive Component Models
120	3.4	Component Matching
130	3.5	Computer Models and Extraction of the Simple Large Signal Model
140	4.1	MOS Switch
150	4.2	Current Sinks and Sources
160	4.3	Current Mirrors and Simple References
170	4.4	Bandgap References
180	5.1	Inverting Amplifier
190	5.2	Differential Amplifier
200	5.3	Low Input Resistance Amplifiers – CG, Cascode and Current Amplifiers
210	5.4	Output Amplifiers
220	6.1	Compensation of Op Amps
230	6.2	Two-stage Op Amp Design
240	6.3	Cascode Op Amps
250	6.4	Simulation and Measurement of Op Amps
260	7.1	Buffered Op Amps
270	7.2	High Speed Op Amps
280	7.3	Differential-In, Differential-Out Op Amps
290	7.4	Low Noise and Low Power Op Amps
300	7.5	Low Voltage Op Amps
310	8.1	Open-Loop Comparators
320	8.2	Improved Open-Loop Comparators and Latches
330	8.3	High speed comparators
340	10.1	Characterization of DACs and Current Scaling DACs
350	10.2	Voltage, Charge Scaling and Serial DACs, Improved Resolution
360	10.3	Characterization of ADCs and Sample and Hold Circuits
370	10.4	Moderate Speed Nyquist ADCs
380	10.5	High Speed Nyquist ADCs
390	10.6	Oversampling ADCs – Part I
400	10.7	Oversampling ADCs – Part II