Lecture Content and Schedule

Integrated Circuits for Broadband Communications

- F. Ellinger, 12.10.2021, modifications possible, please check regularly
- Change of dates for tutorials may be possible according to preferences of students if ok for tutors
- On Fridays, lectures and tutorials will be held in the room GÖR/0226/H
- On Tuesdays, lectures and tutorials will be held in the room TOE/0317/H
- Please bring your portable personal computer (PC) to lab tutorial sessions
- Assistants & tutors: Mengqi Cui (C, mengqi.cui@tu-dresden.de), Seyyedmohsen Seyyedrezaei (S, seyyedmohsen.seyyedrezaei@tu-dresden.de)

Lectures			**Tutorials**			
No	***Date***	***Content***	***No (min)***	***Date***	***Content***	***Res***
1	12.10.21 (5. DS)	0. Prelude (12/12) 1. Apps, standards & Technol. (9/12)				
2	15.10.21 (1. DS)	2. System considerations (26/29)				
3	15.10.21 (2. DS)	3. Optical devices (26/34)				
4	22.10.21 (1. DS)	3. Optical devices (continued) 4. Transimpedance amplifiers (66+/104)				
5	22.10.21 (2. DS)	4. Transimpedance amplifiers (continued)	1 (90)	02.11.21 (5. DS)	*ICBC theory tutorial I: System considerations*	**C**
6	29.10.21 (1. DS)	4. Transimpedance amplifiers (continued)				
7	29.10.21 (2. DS)	5. Limiters and buffers (32/34)	2 (90)	05.11.21 (2. DS)	*ICBC theory tutorial II: Common Stage Topologies (part I)*	**S**
			3 (90)	09.11.21 (5. DS)	*ICBC theory tutorial II: Common Stage Topologies (part II)*	**S**
8	12.11.21 (1. DS)	6. Laser drivers (22/25)				
9	12.11.21 (2. DS)	7. Voltage controlled oscillators (51/74)	4 (90)	16.11.21 (5. DS)	*ICBC lab tutorial 1: Initial Step For Start, Circuit simulation in LTspice*	**S**
			5-6 (180)	19.11.21 (1.-2. DS)	*ICBC lab tutorial 2: Simulation of Common-Source Amplifiers*	**S**
10	26.11.21 (1. DS)	7. Voltage controlled oscillators (continued)				
11	26.11.21 (2. DS)	8. Phase locked loops and synthesizers (37/47)	7-8 (180)	3.12.21 (1.-2. DS)	*ICBC lab tutorial 3: Simulation of Further Amplifiers*	
12	10.12.21 (1. DS)	8. Phase locked loops and synthesizers (continued)				**S**
13	10.12.21 (2. DS)	9. Clock data recovery (49/57)	9-10 (180)	17.12.21 (1.-2. DS)	*ICBC lab tutorial 4: Quadrature Phase Ring Oscillator*	**C**
14	7.1.22 (1. DS)	9. Clock data recovery (continued)	13 (90)	11.1.22 (5. DS)	*ICBC theory tutorial III: Phase-Locked Loop*	**C**
15	7.1.22 (2. DS)	10. Multiplexer and demultiplexer (16/19)	11-12 (180)	14.1.22 (1.-2. DS)	*ICBC lab tutorial 5: Phase detector*	**C**
16	21.1.22 (1. DS)	11. Frequency dividers (20/24) 12. Transceiver implementation examples (6/8)	14 (90)	25.1.22 (5. DS)	Open questions	**C, S**
17	21.1.22 (2. DS)	13. Chip design procedure (11/12) 14. Conclusions (6/6)				