

1st South African Workshop on Superconducting Circuit Design Tools and Modelling 2018

Schedule	Sun 18 Feb	Day 1 – Mon 19 Feb Overview / Digital HDL	Day 2 – Tue 20 Feb Analogue Spice/JSIM	Day 3 – Wed 21 Feb Layout and extraction	Day 4 – Thu 22 Feb Advanced topics	Day 5 – Fri 23 Feb Future and wrap-up
8h00 – 8h45		ARRIVAL / Registration				
8h45 – 9h30		Welcome C Fourie Introductory talks: <i>Hermanus Mayor, SANSA director, French embassy</i>	JJ dynamics and Spice model P Febvre	PTL + drivers/receivers, reflection N Yoshikawa	Simulation vs measure- ment at high frequency N Yoshikawa	TUTORIAL: Fix selected problems Team
9h30 – 10h15			Spice/JSIM simulators – Voltage and phase P Febvre	Parameterized circuits L Schindler	MoM engine fundamentals K Jackman	TUTORIAL: Calculate required values Team
10h15 – 10h30		Break	Break	Break	Break	Break
10h30 – 11h15		Toolchain overview: from analogue circuits to digital logic cells C Fourie	RSFQ circuit simulation, including parasitics, margins, optimization C Fourie	IC Layout C Fourie	Magnetic field analysis C Fourie	Tool chain overview, Future Tools and application needs C Fourie
11h15 – 12h00		HDL modelling and timing (dc and ac) C Fourie	AQFP circuit simulation N Yoshikawa	TUTORIAL: Layout with LASI and XIC C Fourie	Flux trapping analysis K Jackman	Workshop close
12h00 – 15h00		LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
15h00 – 15h45		Logic synthesis & algorithms M Pedram	TUTORIAL: circuit setup and simulation L Schindler & J Delpont	Inductance in SC circuits P Febvre	Layout-versus-Schematic verification R van Staden	
15h45 – 16h30		Placement and path balancing algorithms M Pedram	TUTORIAL: circuit setup and simulation L Schindler & J Delpont	Modelling for inductance extraction C Fourie	Capacitance and impedance P Le Roux	
16h30 – 16h45		Break	Break	Break	Break	
16h45 – 17h30	ARRIVAL Registration/ Social	TUTORIAL: HDL simulation M Pedram and C Fourie	Attendee posters	TUTORIAL: Inductance extraction with InductEx C Fourie	InductEx advanced use – model reduction, ground plane currents, etc. C Fourie	
17h30 – 18h15	ARRIVAL/ Registration/ Social	TUTORIAL: Logic synthesis of 4-bit KSA M Pedram and C Fourie	Attendee posters	TUTORIAL: Inductance extraction with InductEx C Fourie	TUTORIAL: InductEx advanced models C Fourie	
EVENING	Restaurant	Restaurant	Spitbraai	Workshop Dinner	Workshop “braai”	