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专业技能

- 使用 ADS 和 CST (HFSS) 等软件进行电路级以及电磁级的搭建和仿真
- 设计高频开关以及基于此高频开关的其它可变频高频器件, 例如设计小尺寸, 可变频, 高频带通滤波器
- 拥有多年高频器件测试经验, 熟练运用高频探针台和 Wincal 软件等进行高频器件的测量。相关的仪器包括矢量网络分析仪, 示波器, 频谱仪等。
- 其它:
 - 拥有 5 年打印电子和柔性电路的经验。使用的打印机包括 Dimatix Inkjet Printer, Screen Printer, super inkjet printer (SIJ), 精度可达 1 微米。
 - 熟悉整套超净间的电子微加工流程。拥有 5 年超净间仪器使用经验, 包括: 薄膜沉积 (sputter, e-beam, PECVD, ALD), 刻蚀 (干法和湿法), mask writer, contact aligner, SEM, 台阶仪等。
 - 熟练使用 Python 和 TensorFlow。运用 Keras 和 TensorFlow 进行人工神经网络的搭建。

教育背景

PhD	阿卜杜拉国王科技大学 (KAUST) 电子专业(微波及打印电子方向) 论文题目: “Additively Manufactured Vanadium Dioxide (VO ₂) based Radio Frequency Switches and Reconfigurable Components” (2020 年 8 月已毕业) 导师: Prof. Atif Shamim	2015-2020
MS	香港科技大学 (HKUST) IC 设计专业	2012-2013
BS	北京工业大学 电子专业	2007-2011

科研经历

基于二氧化钒 (VO ₂) 的高频开关以及它在可调高频电子器件上的应用。	2017-2020
<ul style="list-style-type: none">• 对基于可打印二氧化钒的高频开关进行设计, 制作和高频测试;• 设计, 打印并测试基于二氧化钒高频开关的柔性可调频带通滤波器, 使用了多模振荡器 (dual mode resonator) 和 meander line 实现小尺寸 0.17*0.21λ_g;• 使用 Python 语言通过 Keras 在 TensorFlow 上搭建一个基于人工神经网络的二氧化钒高频开关模型;	
基于乙酸铜的低成本全打印湿度和硫化氢 (H ₂ S) 气体传感器。	2016-2017
基于半导体型碳纳米管 (s-CNT) 的全打印场效应晶体管。	2015-2016

Journal Papers

- **S. Yang**, M. Vaseem, and A. Shamim, “Fully Inkjet-Printed VO₂-Based Radio-Frequency Switches for Flexible Reconfigurable Components,” *Adv. Mater. Technol.*, vol. 4, no. 1, p. 1800276, 2019.
- **S. Yang**, W. Li., M. Vaseem, and A. Shamim, “Additively Manufactured Dual Mode Reconfigurable Filter Employing VO₂ Based Switches”, (*IEEE Transactions on Components, Packaging and Manufacturing Technology*)
- **S. Yang**, A. Khusro, W. Li, M. Vaseem, and A. Shamim, “ANN based Modelling of Printed VO₂ RF switch for Reconfigurable RF applications”, (*IEEE Transactions on Microwave Theory and Techniques*), under submission.
- M. Vaseem, S. Zhen, **S. Yang**, W. Li, and A. Shamim, “Development of VO₂-Nanoparticle-Based Metal–Insulator Transition Electronic Ink,” *Adv. Electron. Mater.*, vol. 5, no. 5, p. 1800949, 2019.
- W. Li, **S. Yang**, and A. Shamim, “Screen printing of silver nanowires: balancing conductivity with transparency while maintaining flexibility and stretchability,” *Nature (npj) Flexible Electronics*, vol. 3, no. 1, pp. 1–8, Jul. 2019.
- Quddious, **S. Yang**, M. M. Khan, F. A. Tahir, A. Shamim, K. N. Salama, H. M. Cheema, “Disposable, Paper-Based, Inkjet-Printed Humidity and H₂S Gas Sensor for Passive Sensing Applications,” *Sensors*, vol. 16, no. 12, p. 2073, Dec. 2016.

Conference Papers

- S. Yang, W. Li, M. Vaseem, A. Shamim, “Fully Printed VO₂ Switch Based Flexible and Reconfigurable Filter”, in 2020 IEEE MTT-S International Microwave Symposium (IMS), 2020.
- F. A. Ghaffar, S. Yang, H. M. Cheema, and A. Shamim, “A 24 GHz CMOS oscillator transmitter with an inkjet printed on-chip antenna,” in 2016 IEEE MTT-S International Microwave Symposium (IMS), 2016, pp. 1–3.
- M. Vaseem, S. Zhen, S. Yang, and A. Shamim, “A Fully Printed Switch Based on VO₂ Ink for Reconfigurable RF Components,” in 2018 48th European Microwave Conference (EuMC), 2018, pp. 487–490.
- Z. Su, M. Vaseem, W. Li, S. Yang, and A. Shamim, “Additively Manufactured Frequency/Radiation Pattern Reconfigurable Antenna Based on Monolithically Printed VO₂ Switch,” in 2019 13th European Conference on Antennas and Propagation (EuCAP), 2019, pp. 1–4.
- M. Vaseem, Z. Su, S. Yang, and A. Shamim, “Flexibility Assessment of Fully Inkjet-Printed Reconfigurable Antenna with VO₂ Switch,” in 2018 IEEE Indian Conference on Antennas and Propagation (InCAP), 2018, pp. 1–2.
- S. Yang, S. Zhen, and A. Shamim, “Fully Inkjet Printed 85GHz Band Pass Filter on Flexible Substrate,” in 2018 48th European Microwave Conference (EuMC), 2018, pp. 652–654.
- M. Vaseem, Z. Su, S. Yang, and A. Shamim, “Fully Printed Flexible and Reconfigurable Antenna with Novel Phase Change VO₂ Ink Based Switch,” in 2018 International Flexible Electronics Technology Conference (IFETC), 2018, pp. 1–2.
- Z. Su, M. Vaseem, S. Yang, W. Li, K. Klionovski, and A. Shamim, “Fully Printed VO₂ Switch Based Reconfigurable PIFA / T-shaped Monopole Antenna,” in 2018 18th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM), 2018, pp. 1–2.
- Z. Su, M. Vaseem, S. Yang, K. Klionovski, and A. Shamim, “Fully Printed VO₂ Switch Based Reconfigurable PIFA Antenna,” in 2018 IEEE International Symposium on Antennas and Propagation USNC/URSI National Radio Science Meeting, 2018, pp. 1683–1684.