

Curriculum Vitae

Yunfan Wang

Email: yunfa@umich.edu Phone: 734-510-0052

SUMMARY

PhD ECE student interested in RF and THz integrated circuits, systems, and algorithm
(Advisor: David Blaauw)

EDUCATION

- **University of Michigan**, Ann Arbor, Ph. D., Electrical and computer engineering *Since 08/2021*
- **Tsinghua University**, Beijing, China, M. S., Electronic engineering (3.8/4.0) *06/2021*
- **Tsinghua University**, Beijing, China, B. S., Physics (4.0/4.0) *07/2018*

HONORS & AWARDS

- **Outstanding Bachelors Thesis Award of Tsinghua University** *07/2018*
- **Outstanding Graduates of Tsinghua University** *07/2018*
- **Special Prize of University Students Physics Competition in China** *06/2015*
- **National Scholarship of China** *09/2015*

WORK EXPERIENCES

- **Graduate Student Research Assistant (GSRA), University of Michigan** *Since 08/2021*
 - Michigan Integrated Circuits Laboratory (MICL) (Advisor: David Blaauw)
- **Teaching assistant (TA), Tsinghua University** *09/2020–02/2021*
- **Student intern, University of California, SanDeigo** (Advisor: Peter Asbeck) *07/2017–09/2017*
- **Research Assistant (RA), Tsinghua University** *07/2016–07/2021*
 - Intelligent Microwave Circuit and System Lab (IMCS) (Advisor: Wenhua Chen)

PUBLICATIONS

[1] Chien-Wei Tseng, Zhen Feng, Zichen Fan, Hyochan An, **Yunfan Wang**, Hun-Seok Kim, David Blaauw, “A Low-Power Highly Reconfigurable Analog FIR Filter With 11-Bit Charge-Domain DAC for Narrowband Receivers,” in *IEEE Solid-State Circuits Letters*, vol. 7, pp. 74-77, 2024

[2] **Yunfan Wang**, Steve Young, Demba Komma, Jaechan Lim, Zhen Feng, Zichen Fan, Chien-Wei Tseng, Hun Seok Kim, and David Blaauw, “Global Localization of Energy-Constrained Miniature RF Emitters using Low Earth Orbit Satellites,” In The 21st ACM Conference on Embedded Networked Sensor Systems (SenSys '23), November 12–17, 2023, Istanbul, Turkiye.

[3] S. Li, B. Xia, X. Li, **Y. Wang**, X. Liu, and W. Chen, “Analysis and Design of Broadband Balance-Compensated Transformer Baluns for Silicon-Based Millimeter-Wave Circuits,” in *IEEE Transactions on Circuits and Systems I: Regular Papers*, vol. 70, no. 8, pp. 3103-3116, Aug. 2023

[4] Chien-Wei Tseng, Zhen Feng, Zichen Fan, Hyochan An, **Yunfan Wang**, Hun-Seok Kim, and David Blaauw, “A Reconfigurable Analog FIR Filter Achieving -70 dB Rejection with Sharp Transition for Narrowband Receivers,” *2023 IEEE Symposium on VLSI Technology and Circuits (VLSI Technology and Circuits)*, Kyoto, Japan, 2023, pp. 1-2.

[5] S. Li, W. Chen, X. Li, and **Y. Wang**, “A 5.1 dBm 127–162 GHz Frequency Sextupler with Broadband Compensated Transformer-Based Baluns in 22nm FD-SOI CMOS,” *2022 IEEE Radio Frequency Integrated Circuits Symposium (RFIC)*, Denver, CO, USA, 2022, pp. 315-318.

[6] **Y. Wang**, W Chen, X Li, J Chen, L Chen, F Huang, S Li, Z Wang, “Highly Efficient Terahertz Beam-Steerable Integrated Radiator Based on Tunable Boundary Conditions,” *IEEE J. Solid-State Circuits*, vol. 57, no. 5, pp. 1314-1331, May, 2022.

[7] **Y. Wang**, W. Chen, X. Li, Z. Wang, J. Chen and L. Chen, “A 0.41-THz Coherent Harmonic Radiation Array Based on Mode-dependent Boundaries,” *2021 IEEE International Workshop on*

Curriculum Vitae

- Electromagnetics: Applications and Student Innovation Competition (iWEM)*, Guangzhou, China, 2021, pp. 1-3.
- [8] Y Wei, X Li, **Y. Wang**, T Hirtz, Z Guo, Y Qiao, T Cui, H Tian, Y Yang, and TL Ren, "Graphene-based multifunctional textile for sensing and actuating" *ACS nano* 15 (11), 17738-17747, 2021.
- [9] X Li, W Chen, P Zhou, **Y. Wang**, F Huang, S Li, J Chen, and Z Feng, "A 250–310 GHz Power Amplifier With 15-dB Peak Gain in 130-nm SiGe BiCMOS Process for Terahertz Wireless System," in *IEEE Transactions on Terahertz Science and Technology*, vol. 12, no. 1, pp. 1-12, Jan. 2021
- [10] X. Li, W. Chen, S. Li, **Y. Wang**, F. Huang, X. Yi, R. Han, and Z. Feng, "A high-efficiency 142-182-GHz SiGe BiCMOS power amplifier with broadband slotline-based power combining technique", *IEEE J. Solid-State Circuits*, vol. 57, no. 2, pp. 371-384, Feb. 2021.
- [11] **Y. Wang**, W. Chen, X. Li, J. Chen, L. Chen, and S. Li, "300-335 GHz highly efficient beam steerable radiator based on tunable boundary conditions", *IEEE Radio Frequency Integrated Circuits (RFIC)*, Atlanta, GA, USA, Jun. 2021.
- [12] **Y. Wang**, W. Chen, X. Li, S. Li, and P. Zhou, "305-325 GHz non-reciprocal isolator based on peak-control gain-boosting magnetless nonreciprocal metamaterials", *IEEE Radio Frequency Integrated Circuits (RFIC)*, Atlanta, GA, USA, Jun. 2021.
- [13] L. Chen, W. Chen, **Y. Wang**, and Z. Feng, "Linearization of GaN HEMT-Based Power Amplifiers Using a Bias Tracking Digital Predistortion," *2021 IEEE MTT-S International Wireless Symposium (IWS)*, Nanjing, China, 2021, pp. 1-3
- [14] X. Li, W. Chen, **Y. Wang**, and Z. Feng, "A 160 GHz High Output Power and High DC-to-RF Efficiency Fundamental Oscillator in a 130-nm SiGe BiCMOS Process," *2020 50th European Microwave Conference (EuMC)*, Utrecht, Netherlands, 2021, pp. 1159-1162
- [15] X. Li, W. Chen, S. Li, **Y. Wang**, F. Huang, X. Yi, R. Han, and Z. Feng, "A high-efficiency 142-182-GHz SiGe BiCMOS power amplifier with broadband slotline-based power combining technique", *IEEE J. Solid-State Circuits*, early access, 2021.
- [16] Yancong Qiao, Xiaoshi Li, Jinming Jian, Qi Wu, Yuhong Wei, Hua Shuai, Thomas Hirtz, Yao Zhi, Ge Deng, **Yunfan Wang**, Guangyang Gou, Jiandong Xu, Tianrui Cui, He Tian, Yi Yang, and Tian-Ling Ren, "Substrate-Free Multilayer Graphene Electronic Skin for Intelligent Diagnosis", *ACS Applied Materials & Interfaces* 2020 12 (44).
- [17] X. Li, W. Chen, **Y. Wang**, and Z. Feng, "A 160 GHz high output power and high efficiency power amplifier in a 130-nm SiGe BiCMOS Technology", *IEEE Radio Frequency Integrated Circuits (RFIC)*, Los Angeles, CA, USA, Jun. 2020.
- [18] X. Li, W. Chen, **Y. Wang**, and Z. Feng, "A 180 GHz high-gain cascode power amplifier in a 130nm SiGe process", *Electronics letters*, 2020.
- [19] **Y. Wang**, W. Chen, and X. Li, "A 210-GHz magnetless nonreciprocal isolator in 130-nm SiGe BiCMOS based on resistor-free unidirectional ring resonators", *IEEE Micro. Wireless Compon. Lett.*, vol. 30, pp.524427, 2020.
- [20] Y. Qiao, **Y. Wang**, and et al. "Multifunctional and high-performance electronic skin based on silver nanowires bridging graphene", *Carbon*, vol. 156, pp.253-260, 2020.
- [21] **Y. Wang**, W. Chen, and X. Chen, "Highly linear and magnetless isolator based on weakly-coupled nonreciprocal metamaterials", *IEEE Trans. Microw. Theory and Techn.*, vol. 67, no. 11, 2019.
- [22] Y. Wei, Y. Qiao, C. Jiang, **Y. Wang**, F. Wang, M. Li, and et al, "A wearable skin-like ultra-sensitive artificial graphene throat", *ACS Nano*, vol.13, no.8, pp. 8639-8647, 2019.
- [23] Y. Qiao, **Y. Wang**, He Tian, M. Li, et. al, "Multilayer graphene epidermal electronic skin", *ACS nano*, vol. 12, no. 9, pp. 8839-8846, 2018.
- [24] **Y. Wang**, and W. Chen. "A novel design method of RF lens for long-range wireless power transmission," *IEEE antenna and wireless propagate. lett.* vol. 16, pp. 3159-3162, 2017.