

2020학년도 하반기 서울대학교 전기·정보공학부 대학원 입시설명회

Applied Electromagnetics Laboratory

Members

- Prof. Sangwook Nam
 - Professor, Dept. of ECE, Seoul National University (1990 – Present)
 - Education:
 - Ph.D. in ECE, Univ. of Texas at Austin
 - M.S. in EE, KAIST •
 - B.S. in ECE, Seoul National University
 - Recent Publications:
 - 2020(-ING): 4 SCI(E) Journals, 1 Intl. Conf.
 - 2019: 10 SCI(E) Journals, 5 Intl. Conf.

Research Area

Students

- 2 Postdoctoral researchers •
- 8 Ph.D. Candidates
- 3 M.S. Candidates
- Alumni
 - 24 Ph.D.
 - 54 M.S.

Mid/Long-range Wireless Power Transfer



Derivation of the theoretical efficiency for mid/long-range WPT



Optimized WPT considering human body effects

Industrial Radar Sensor Development



MIMO Imaging radar sensor for personal security system



Radar sensor for unmanned vehicle mounting for omnidirectional detection



Advanced and Integrated Software Development for Automotive Radar Analysis

Innovative Beamforming Antenna System





Beamforming using liquid crystal

mmwave Antenna Technology





Beamforming using tunable elements(Varactor)

-with GP and PC, EM simulation with GP, circuit simulation 1000 1200 1400 1600 Frequency (MHz)

20:1 Ultra-wideband beamforming antenna with polarization convertor

without slits and stubs (simulated — without slits and stubs (measured -90 -75 -60 -45 -30 -15 0 15 30 45 60 75 90 Scan angle (deg.) • $\underbrace{\frac{stub_w}{2}}{stub_h}$ -10 vith slits and stubs (simulated with slits and stubs (measured) -60 -45 -30 -15 0 15 30 45 60 75 90

Ka-band (26.5-40 GHz) array antenna :Theoretical analysis & performance enhancement



W-band (75-110 GHz) Reflectarray Antenna

Lab. Information

- Homepage: http://ael.snu.ac.kr
- Location: Building 132 (INMC), Room 311
- **Contact: (02)880-8432**

Preacquisition

- Electromagnetics
- Signal & System, Linear algebra
- Electric/Electronic circuits