



# CALL FOR PAPERS

While 'far-field' electromagnetic (EM) radiation dominates at greater distances, nonradiative 'near-field' behaviors of EM fields dominate close to the antenna or scattering object where EM coupling is mainly involved. Although the near-field phenomena have been known since 1800s, near-field based technology was not popular except for a few limited applications. However, the world of mobile electronics has exploded recently, and there has been a dramatic increase in interest in near-field wireless power and signal transfer considering the efficiency and safety of near-field wireless systems. It has distinct advantages over conventional far-field technologies, for example, relative scarcity of magnetic materials in everyday life and better transmission through a variety of obstacles (water, walls, furniture, and human body) due to less interaction with the magnetic field. While the benefits may be great, there have been less results specifically applicable to near-field transmission technologies compared to conventional far-field EM technologies, partly due to the difficulty in analysis and simulation without far-field plane wave simplifications. Thus, it necessitates further research on theory, design methodology, and measurement techniques to facilitate the progress of near-field technologies.

We invite original research articles and review articles that will stimulate continuing efforts to study near-field propagation characteristics and to develop enhanced wireless power and signal transfer solutions in numerous applications including IoT, consumer, biomedical, and transport systems.

Potential topics include, but are not limited to:

- ▶ Near-field propagation channel characteristics and channel modeling
- ▶ Wireless power transfer technologies and standards including WPC, PMA, and A4WP
- ▶ Near-field communication systems including near-field communication (NFC), radio frequency identification (RFID), wireless body area network (WBAN), and wireless personal area network (WPAN)
- ▶ Advanced antenna design for near-field wireless power transfer and/or communications
- ▶ System design for near-field wireless power transfer and/or communications
- ▶ Near-field multi-input multioutput (MIMO) systems
- ▶ Impact of nonideal conditions on near-field applications such as misalignment and distance variations
- ▶ Demonstration and field trials of new wireless power transfer and/or communications
- ▶ Emerging or new applications based on near-field propagation including consumer, biomedical, and transportation systems

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/ijap/nfpa/>.

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