

Special Issue on  
**Electromagnetic Wave Sensing in Complex Scenarios:  
Scattering Models and Applications**

# CALL FOR PAPERS

Recent progress in wave sensing techniques and technologies has resulted in the development of applications in disparate fields, including radar imaging, remote sensing, and communication. Within this context, electromagnetic modeling plays an important role, since scattering models have explicitly or implicitly been used in wave sensing applications or integrated within the inherent signal processing schemes. Scattering models, as abstractions of the real world given in terms of computable mathematical functions, are effective according to their predictive capabilities in describing the wave interaction phenomenon under investigation. Depending on the adopted methodological approach, scattering models may be analytical or numerical, continuous or discrete, and either deterministic or stochastic, with some of them being more appropriate, in terms of accuracy and computational cost, for a specific application scenario. Scattering modeling, pertaining to either man-made or natural complex structures or environments, extends to the vast field of practical sensing applications, thus still posing challenging problems of theoretical, computational, and experimental relevance.

This special issue aims at highlighting recent advancements, development, and applications relevant to electromagnetic wave sensing in complex scenarios, with a special emphasis on the scattering modeling. We solicit papers describing challenging conceptual and practical problems, thus embracing theoretical modeling, novel methodological frameworks, numerical simulation and inversion, and experimental and data validation, with application to radar imaging, communication, remote sensing, geophysical and biomedical media, and nondestructive testing. Studies that contribute to a better understanding of interrelations among the real world, conceptual models and computer simulations are also encouraged. We invite researchers to contribute original research articles as well as review articles.

Potential topics include but are not limited to the following:

- ▶ Electromagnetic direct and inverse problems in complex scenarios
- ▶ Formulations for electromagnetic modeling in various regimes (asymptotic, perturbative, etc.)
- ▶ Scattering and propagation in layered structures
- ▶ Random surfaces and random media
- ▶ Stochastic and fractal based modeling
- ▶ Efficient numerical approaches for electromagnetic scattering
- ▶ Radar applications and imaging techniques

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

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Friday, 9 June 2017

**First Round of Reviews**

Friday, 1 September 2017

**Publication Date**

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