Mathematical Problems in Engineering

Special Issue on
Advances in Time Series Analysis and its Applications

CALL FOR PAPERS

Characterizing dynamical processes in a time-dependent complex system from observed time series of just one or at most a few variables is a fundamental problem of significant importance in many research fields. Time series analysis has been broadly adopted in scientific research and engineering applications. Many theoretical developments and new methods for time series analysis have significantly contributed to the understanding of complex systems. However, when the system complexity increases, it becomes difficult to describe the dynamic behavior from time series and traditional time series analysis methods have difficulties to cope with the specific requirements induced by this complexity. There still exist many challenges in further developing time series analysis methods addressing such problems. Advanced methods of time series analysis provide new prospects for investigating complex systems and will result in substantial and sustainable deepening of our knowledge in a broad variety of fields of science.

This special issue aims to foster dissemination of high quality research in time series analysis and its applications. Original research articles are solicited in all aspects that are related to time series analysis and its applications, with a special emphasis on new theories and applications of time series analysis. We cordially invite researchers and practitioners to submit their original papers to this special issue.

Potential topics include, but are not limited to:

- ▶ New algorithms and applications
- ▶ Feature extraction and modeling of time series
- ▶ Nonlinear and chaotic time series analysis
- ▶ Recurrence plot and recurrence quantification analysis
- ▶ Complex network analysis of time series
- ▶ Fractal, reversal, and complexity about time series
- ▶ Multidimensional time series analysis
- ▶ Intelligent time series processing
- ▶ Biological information analysis
- ▶ Time series forecasting and identification
- ▶ Financial time series processing
- ▶ Medical signal analysis
- ▶ Time series analysis in and geology
- ▶ Real-world applications and other applications
- ▶ Diagnosis in engineering
- ▶ Acoustic and image time series analysis

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/mpe/atsa/.

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