

Editorial

We release the last issue of the current volume of the **Signal and Telecommunication Journal** with the following research.

In the opening paper, “**Finite-Sample Effects on the Spectral Characterization and Power-Law Convergence of Fractional Gaussian Noise,**” the authors examine how finite-sample effects influence the spectral characterization and power-law convergence of fractional Gaussian noise (fGn). A controlled and scalable benchmark was developed using synthetic fGn realizations across four dyadic lengths. Employing two spectral estimators Welch’s averaged periodogram and the raw Fast Fourier Transform the evolution of the spectral exponent, goodness of fit, and confidence intervals was systematically tracked. The findings reveal a nonlinear transition from noise dominated, white like spectra in shorter records to asymptotic power law scaling in longer sequences.

In the next paper, “**Comprehensive Multi-Domain Analysis of Radar-Derived Vital Signs for Contactless Resting Respiration and Apnea Detection,**” the authors present a thorough multi-domain analysis of radar-derived vital signs, with a focus on contactless monitoring of resting respiration and the detection of apneic episodes. Using the VITALSENSE 120 dataset which includes synchronized continuous-wave radar recordings sampled at 333.33 Hz alongside clinical grade reference physiological signals the radar displacement signal was comprehensively evaluated across multiple analytical domains. The results indicate that resting respiration produces stable periodic oscillations with a dominant respiratory frequency in the 0.1–0.5 Hz band, and exhibits strong temporal synchronization with reference signals.

In the last paper, “**Performance Evaluation of THz-Enabled Cloud-IoT Networks Using a Hybrid Multi-Criteria Decision-Making Framework,**” the authors propose a novel hybrid Multi Criteria Decision Making (MCDM) framework for evaluating THz-enabled Cloud-IoT networks. Drawing on a comprehensive dataset of 4,000 observations that includes environmental, communication, and blockchain based security metrics, the framework integrates both subjective and objective weighting mechanisms. The results show strong concordance among the weighting schemes: AHP and CRITIC emphasize core communication metrics such as signal strength and bandwidth, while EWM highlights the critical statistical variability in blockchain validation latency.

We hope that the research featured in this issue is technically elegant and reflects ongoing developments in the field.

Editors