

Call for Papers

----- Special Section on Analog Circuit Techniques and Related Topics -----

The IEICE Transactions on Fundamentals announces that it will publish a special section entitled “Special Section on Analog Circuit Techniques and Related Topics” in **May 2024**.

Analog circuit technology has brought drastic improvements in wired and wireless network communication, and its scope is expanding to living, medical, automotive, and green technologies. Modern analog systems require power-efficient, small, and advanced functionality by both digital and analog signal processing. Device modeling and characterization for millimeter wave and terahertz circuits, scalable design methodologies for system-level design and large-scale circuits, and improvement on reusability and standardization of circuits have been actively investigated for more reliable and rapid design.

Demand for high-efficient power supply circuits, power management, and design for emerging devices has increased to realize a sustainable society. As AI-related technologies such as autonomous driving have grown exponentially, analog computing, such as neural networks and hardware accelerators for specific applications, is being reaffirmed.

In these circumstances, this special section aims to present and discuss the latest research results and future directions of techniques on analog/mixed-signal circuit design, computer simulation, testing, and more.

1. Scope

This special section aims at the timely dissemination of research in these areas. Topics include, but are not limited to:

- Low-voltage/low-power analog circuits, analog circuits for MEMS
- Mixed analog and digital systems, circuits, LSI technologies, circuits compensation techniques, noise analysis techniques
- MMW-band and RF-band analog circuits, analog circuits for telecommunication, analog circuits for intelligent systems
- Analog signal processing circuits (op-amps, amplifiers, comparators, filter circuits, oscillators, multipliers)
- Reference voltage/current sources
- Sensor circuits, A-D converters, D-A converters, PLLs, $\Sigma\Delta$ modulators
- Analog circuits utilizing beyond CMOS devices
- Power management circuits, DC-DC converters, AC-DC converters, energy harvesting circuits, wireless power supply
- Power device circuit
- Analog circuit techniques in digital circuits (memories, microprocessors, DSPs, etc.)
- Nonlinear electronic circuits, chaotic circuits
- Neural network circuits, analog AI accelerator
- Device modeling and simulation techniques for analog circuits
- CAD for analog circuits design
- Analog layout CAD
- Behavior modeling and system-level simulation techniques
- Other related analog circuits techniques

2. Submission Instructions

The standard number of pages is 8 for a PAPER and 2 for a LETTER. The maximum number of pages for the initial submission of a LETTER is 4. The page charges are considerably higher for extra pages. Manuscripts should be prepared according to the guideline in the "Information for Authors." The latest version is available on the website, https://www.ieice.org/eng/shiori/mokuji_ess.html. The term for revising the manuscript after acknowledgment of conditional acceptance for this special section could be shorter than that for regular issues (60 days) because of the tight review schedule.

This special section will accept only papers by electronic submission. Prospective authors are requested to follow carefully the submission process described below.

1. Submit a manuscript and electronic source files (TeX/Word files, figures, authors' photos, and biography) via the IEICE Web site https://review.ieice.org/regist/regist_baseinfo_e.aspx by **May 22, 2023**. Authors should choose the [Special-GC] Analog Circuit Techniques and Related Topics as a "Journal/Section" on the online screen. **Do not choose [Regular-EA]**.

2. Authors must agree to the "Copyright Transfer, Article Processing Charge Agreement, Notices from the IEICE, and Privacy Policy" via electronic submission.

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3. Special Section Editorial Committee

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* Upon acceptance for publication, all authors, including authors of invited papers, should pay the page charges covering the partial cost of publication around Oct. 2023. If payment is not completed by Nov. 14, 2023, your manuscript will be handled as a rejection.

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