Call for Papers

CMP Chinese Journal of Electrical Engineering

Special Issue on Switched-Capacitor Circuits and Partial Processing Techniques, 2020

Scheduled Publication Time: Dec, 2020

Switched-capacitor circuits are gaining renewed interests for its capability of processing unregulated power with 99% duty ratio, ultra-high efficiency and ultra-high power density. Among various techniques, half-resonance circuits are most promising because of its lab demonstrated efficiency (>98.5%) and power density (>1,000W/in^3). In the meantime, partial processing (including partial energy, partial power, partial voltage or/and partial current) techniques are reemerging to leverage the benefits from both switched-capacitor circuits and traditional PWM circuits. Partial processing has the potential to revolutionalize how we process power and energy. In order to fully realize their potential, several technological breakthroughs are needed, including techniques in providing 99% duty ratio while minimize the size of energy storage elements, multi-level techniques to minimize component size while maintain ultra-high efficiency and power density, magnetic structure that can provide voltage or current controlled inductance with minimum size and high current, PwrCMOS controllers that can drive a large number of channels with virtually fixed duty ratio, etc.

This special issue intends to provide an international forum for people from industry and academia to exchange their ideas, progress in technology development, and most recent research results. Prospective authors are invited to submit original contributions, or survey papers in this special issue. Papers with applications in nature are particularly welcome. Topics of interest include, but are not limited to:

- Switched-cap circuit topologies
- Switched-cap circuit loss mechanism
- Half-resonance circuits
- Series/parallel schemes for size reduction
- Switched-cap regulation with minimum inductance
- Multi-channel PwrCMOS Controllers/ASICs
- Energy-based control methods
- Energy-based simulation and algorithms
- Parallel partial processing
- Series partial processing
- Partial power processing
- Voltage/current-controlled inductances

All manuscripts must be submitted through Manuscript Central at https://mc03.manuscriptcentral.com/cjee. Submissions must be clearly marked "**For Special Issue of Switch Capacitor and Partial Processing**" on the cover page. The information about manuscript preparation and requirements is provided on http://www.cjeecmp.com/EN/column/column334.shtml. Please note that due to the COVID-19 pandemic, the research work has been delayed significantly, thus the submitted manuscripts are encouraged with limited experimental results. Manuscripts submitted for the special issue will be reviewed separately and will be handled by the guest editorial board noted below.

Deadline for Submission of Manuscript: Extended to Sep. 20, 2020

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Proposed Timeline:

- Sep. 20, 2020 – Manuscripts Submission Deadline
- Oct. 31, 2020 – Final Acceptance Notification
- Nov. 15, 2020 – Manuscripts Forwarded to CJEE for Publication
- Dec. 31, 2020 – Special Issue Appears in CJEE