Active and Passive Electronic Components

Special Issue on
Advanced Charge-Trapping Memory Devices

CALL FOR PAPERS

Nowadays, there has been increasing need for a new memory technology combining the best features of current memory devices in a CMOS-compatible fabrication technology for the rising demand of stand-alone and embedded memories. High-density and high-speed nonvolatile memory is fundamental in the development of more compact yet performance enhanced processors, as the on-chip memory in modern CPU occupies more than half of the floor space. Replacing the conventional floating-gate memory with novel semiconductor material and advanced memory technology has been regarded as promising approach to improve the nonvolatile memory speed, density, and reliability for future on-chip applications. The device scaling in future memory will be less burdened and the memory integration density will be significantly enhanced through investigations of innovative charge-trapping mechanism and careful design, fabrication, and characterization techniques based on novel materials and devices structures.

This special issue aims to solicit original research papers as well as review articles, focusing on developments in theoretical and experimental study on charge-trapping memory for future high-speed, high-density, and high-reliability nonvolatile memory applications.

Potential topics include but are not limited to the following:

- ▸ Charge-trapping memory: fundamentals, properties, and integration
- ▸ Functional material properties and device engineering
- ▸ Ultrathin TFT-based charge-trapping memory
- ▸ 3D flash technologies
- ▸ Optoelectronic, sensing, and energy harvesting applications
- ▸ Modeling and simulation of materials, structures, and memory devices
- ▸ Advanced packaging and memory integration technologies
- ▸ Other emerging nanomaterial- and nanodevice-related memory topics

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/apec/actmd/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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