

Special Issue

Magnetoresistive Random-Access Memory (MRAM): Present and Future

Message from the Guest Editor

Magnetoresistive random-access memory (MRAM) has emerged as one of the leading candidates for next-generation non-volatile memory. Spin-transfer-torque (STT) MRAM with perpendicular anisotropy has demonstrated mass production with viable roadmaps to scaling down to below 22 nm technology node, replacing embedded flashes in advanced nodes.

Moreover, new technological innovations including spin-orbit-torque (SOT), voltage-controlled magnetic anisotropy (VCMA), and magneto-electric (ME) devices are continuously pushing the write latency and energy efficiency of MRAM closer to that of CMOS-based static random-access memory (SRAM), exhibiting immense potential for being integrated as cache and on-chip scratchpad memory for high-performing computing systems. More recently, the improved density, high endurance, and reduced leakage of MRAM further open up an interesting direction for accelerating the memory-intensive computation of artificial intelligence (AI).

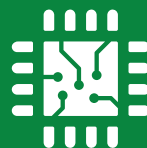
Guest Editor

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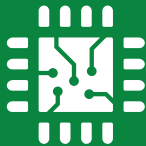
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Message from the Editor-in-Chief

Chips is a new journal with the aim to become a leading reference on all aspects of the IC domain. The journal is devoted to publishing rigorously peer-reviewed articles (such as original research, reviews, and communications) with the specific target to disseminate novelties in terms of research and knowledge as well as the most advanced state of the art on IC technologies, design, testing, and production. The journal offers the opportunity to actively spread new concepts and advancements in the IC domain and its increasing interrelated and multidisciplinary areas in a timely manner. More specifically, the journal will cover chip design, including CAD tools, chip production, and their wide spectrum of applications.

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