Special Issue

Electrothermal Effects in Semiconductor Devices/Circuits

Message from the Guest Editor

Electrothermal effects plague semiconductor devices, circuits, and systems in a large variety of technologies and applications, thus affecting their functionality and reliability. This is a side effect of strategies conceived to boost electrical performance, namely, (i) adoption of high-electron-mobility materials suffering from poor thermal conductivity (e.g., GaAs), (ii) fabrication of shallow/deep poly/oxide trenches and buried oxide layers to reduce parasitics and alleviating cross-talk, (iii) lateral scaling to increase the integration level, (iv) current density growth to obtain better frequency behavior. The scope of this Special Issue is to gather papers dealing with the analysis of electrothermal effects and approaches to mitigate them and improve the thermal ruggedness. The manuscripts should be focused on—but not limited to—experimental characterization, modeling techniques (including model-order reduction), as well as low-resource-demanding, yet accurate enough, simulation methods where electrical and thermal problems are concurrently solved.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guestedited by leading experts in selected topics of interest.

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