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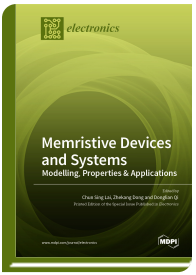
Special Issue Reprint

Memristive Devices and Systems: Modelling, Properties & Applications



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This reprint presents the Special Issue on “Memristive Devices and Systems: Modeling, Properties, and Applications”. The Special Issue provides a comprehensive overview of key computational primitives enabled by these memory devices, as well as their applications, spanning edge computing, signal processing, optimization, machine learning, deep learning, stochastic computing, and so on. The memristor is considered to be a promising candidate for next-generation computing systems due to its nonvolatility, high density, low power, nanoscale geometry, nonlinearity, binary/multiple memory capacity, and negative differential resistance. Novel computing architectures/systems based on memristors have shown great potential to replace the traditional von Neumann computing architecture, which faces data movement challenges. With the development of material science, novel preparation and modeling methods for different memristive devices have been put forward recently, which opens up a new path for realizing different computing systems/architectures with practical memristor properties.

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