Special Issue

Silicon Nanowires and Their Applications

Message from the Guest Editors

Dear Colleagues,

We invite you to contribute to a Special Issue of the journal *Applied Sciences*, “Silicon Nanowires and Their Applications”, which aims to present recent advances in the investigation silicon nanowires (SiNWs) and SiNW-based devices including also fabrication strategies, SiNW characterization, and theoretical studies.

SiNWs provide a unique set of material and morphological properties comprising 1D transport phenomena and a high surface to volume ratio that enable a broad spectrum of applications. The enhanced electrostatics in SiNW devices offers for instance the possibility to scale field effect transistors (FETs) down to <10 nm following Moor’s law. Multiple applications were also demonstrated in the fields of chemical, biochemical and biological sensing ranging from ion-sensitive FETs and vertical electrode arrays to nanoscale injectable probes. Other aspects and applications of SiNWs, besides the examples listed above, are also very welcome.

Keywords: Si nanowire; Fabrication; Quantum computing; Sensor; Thermoelectrics; Battery; Photovoltaics

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