Special Issue

Spin-Photonic Devices and Its Applications

Message from the Guest Editor

Spin-photonics, or spin-optoelectronics, is an emerging sub-field of spintronics that aims at adding spin-based functionality to the conventional optoelectronic devices exploiting the conservation of spin angular momentum between carriers and photons. For the first decade since the first reports on spin-polarized light emitting diodes (spin-LEDs) in 1999, spin-photonic devices had been mostly studied as a tool for investigating the spin-state of carriers in semiconductors or metals. In the next decade up to now, most efforts have been focused at the development of spin-photonics devices for practical use on the basis of the knowledge obtained by research in the previous decades. Recently, several demonstrations and significant progressions of devices that can endure practical use have been reported. Several potential applications in particular have been reported: optical secure communications, light source for storage devices, chiral molecule resolutions, three-dimensional display, biomedical imaging, optically enhanced nuclei imaging. We are looking forward to your submissions.

Guest Editor

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