

Plenary02

The World of Spintronics

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Spintronics is the field in which both charge and spin degrees of freedom are used to realize functions otherwise not accessible. A wide variety of research is being carried out from those that are more exploratory in nature to close to the real world applications, from magnetic material synthesis through novel spin-based semiconductor device structures to magnetic material-semiconductor hybrids, including magnetic tunnel junctions that exhibit giant magnetoresistance, not only for magnetic random access memories but for nonvolatile logic applications. Here, I give an overview of recent developments and some personal perspective of this field.