第119回 磁性研ゼミナール

The 119th Magnetics Lab Seminar

ナノ・スピントロニクス素子材料

- New Materials for Nano Spintronic Devices -

2018年5月1日14:35-16:00

豊橋技術科学大学 C-204

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Spintronics is one of the emerging research fields in nanoelectronics, of which future progress depends on the development of new materials. One of such materials is a half-metallic ferromagnet with 100% spin polarisation at the Fermi level. Here, Heusler alloys have the greatest potential due to their controllable intrinsic magnetisation, high Curie temperature and good lattice matching with common substrates. We have been growing such alloys in their epitaxial and polycrystalline film forms to demonstrate larger activation volume and to achieve over 50% reduction in crystallisation energy by aligning the crystalline plane to be (110). These films have been confirmed to have a bandgap at the Fermi level by infra-red circularly polarised photoexcitation.

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