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**Probing the Nanostructure in Digital Layers of Mn/GaAs and MnGa/GaAs**

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Nanostructure of magnetic digital layers of Mn/GaAs and MnGa/GaAs has been investigated using grazing incidence x-ray scattering (GIXS) and x-ray diffraction (XRD) techniques. Superlattice samples of Mn/GaAs and MnGa/GaAs with various GaAs layer thickness ~8 to 16 monolayers and a half monolayer of either Mn or MnGa were prepared by molecular-beam epitaxy at low growth temperatures. All digital alloys consist of 50 periods of Mn/GaAs or MnGa/GaAs, each contains a magnetic layer grown on a GaAs spacer. Our GIXS and XRD data exhibit high crystalline quality and confirm the periodicity and layer thickness in these material systems.

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