

Abstract Submitted
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Ge-Based Diluted Magnetic Semiconductor films on Si¹ ZUOMING ZHAO, XIAOYU ZHOU, KANG L. WANG, University of California, Los Angeles — Ge-based diluted magnetic semiconductor (DMS) films with 4% manganese (Mn) are grown on Si (001) substrates using molecular beam epitaxy (MBE). Surface morphology is measured by atomic force microscopy (AFM). For a 24-nm thick film, surface roughness around is around 1nm. Structure properties of the film are characterized by X-ray diffraction (XRD) and single crystal film quality by the results which only (004) Ge peak is observed. Magnetic properties are measured by a superconducting quantum interference device (SQUID). Clear hysteresis is observed at room-temperature. The results indicate that high quality Ge-based DMS can be grown on Si with good crystal quality and magnetic properties.

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