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Characterization of InGaN/GaN Quantum Well grown on GaN microdisk using γ-$LiAlO_2$ substrate by Plasma-assisted Molecular Beam Epitaxy[1] YU-CHI HSU, IKAI LO, W. Y. PANG, C.H. SHIH, C.H. HU, Y.C. WANG, C.C. YANG, Y.C. LIN, S.T. YOU, Department of Physics, National Sun Yat-Sen University, Kaohsiung 80424, Taiwan, MITCH M.C. CHOU, Department of Materials and Optoelectronic Science, National Sun Yat-Sen University, Kaohsiung 80424, Taiwan — The InGaN/GaN quantum wells grown on GaN microdisks by plasma-assisted molecular beam epitaxy (PAMBE) have been investigated. The optical properties and micro-structure of InGaN/GaN quantum wells were studied by Cathodoluminescence (CL) and transmission electron microscope (TEM). According to the observation of high-resolution TEM, we obtained the high quality of InGaN/GaN quantum wells grown on GaN micro-disk. The In-ratio (x) of $In_xGa_{1-x}N$ is $\sim$8% determined by the measurement of energy-dispersive X-ray spectroscopy (EDX). The optical gap of $In_{0.08}Ga_{0.92}N$ was measured to be $\sim$3eV determined by CL measurement, which is consistent with the calculation of bowing parameters and the measurement of EDX.

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Yu-Chi Hsu
Department of Physics,National Sun Yat-Sen University,
Kaohsiung 80424, Taiwan

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