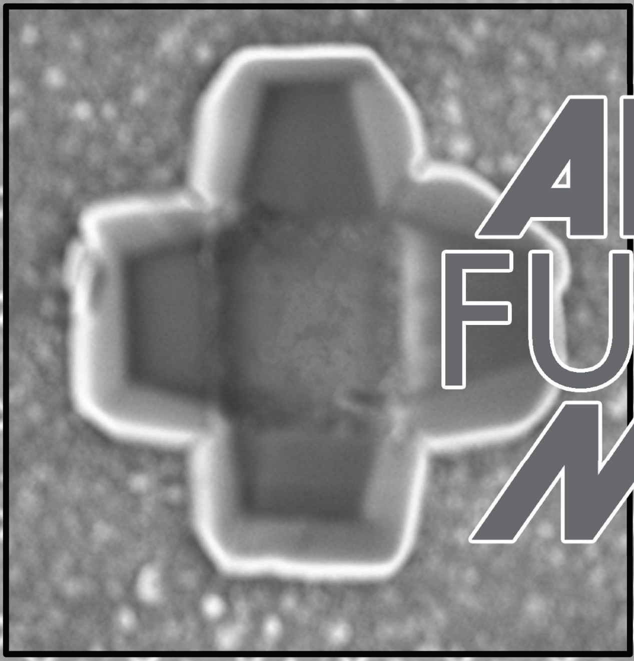
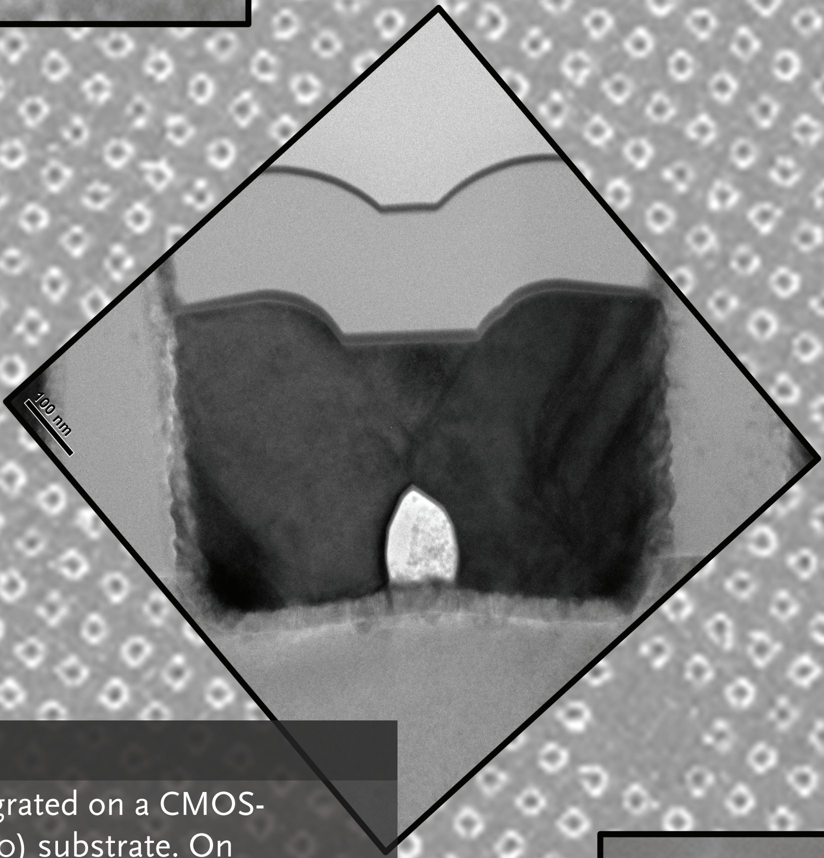
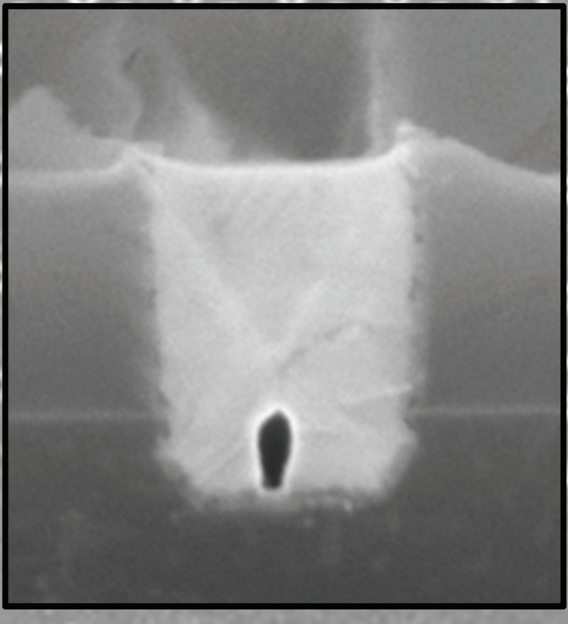
ADVANCED FUNCTIONAL MATERIALS





GALLIUM NITRIDE

Gallium nitride is integrated on a CMOS-compatible Silicon (100) substrate. On page 4492, C. Bayram et al. demonstrate thermodynamically stable, stress-free, low-defectivity GaN. The issue of lattice- and thermal-mismatch between GaN and Si is reconciled through a new mask-free local-area epitaxy. Novel U-shaped nanogroove patterns are also demonstrated, enabling polarization-free cubic-phase GaN. (In)GaN-based multi-quantum-well structures on such polarization-free GaN/Si templates offer an ideal roadmap for (integrated) photonic devices.



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