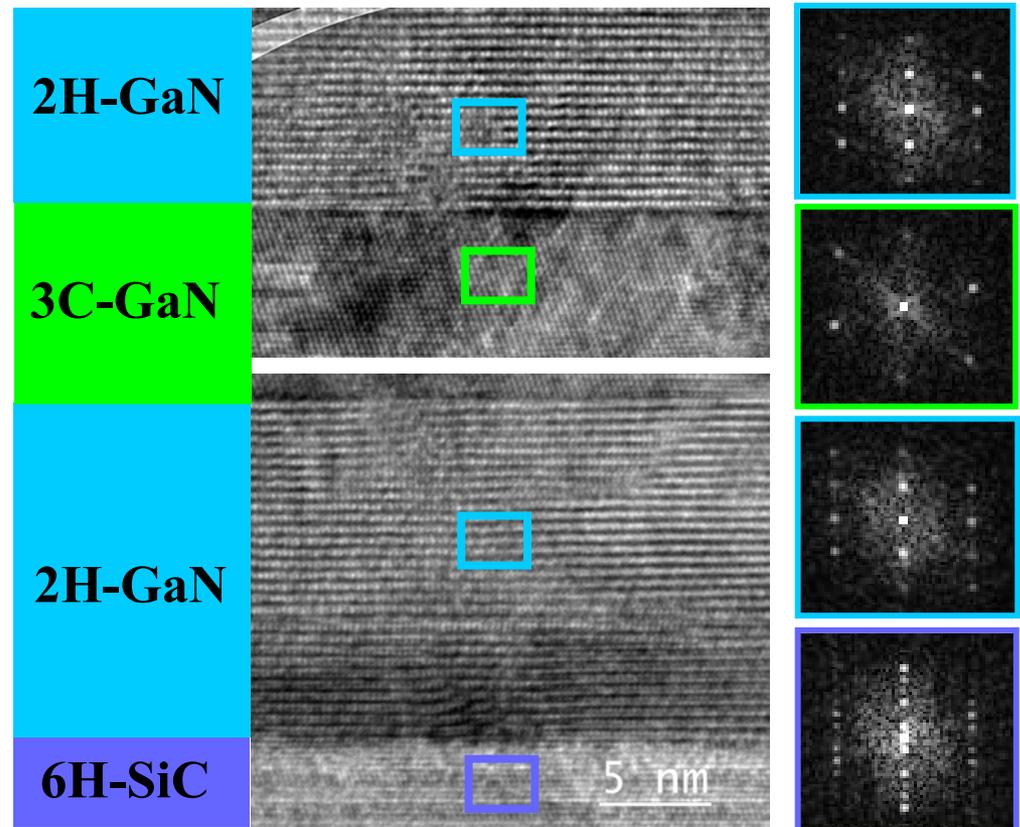


# Synthesis of a *hexagonal/cubic/hexagonal* GaN Heterostructure

Lian Li, University of Wisconsin, Milwaukee, [DMR-0094105](#)

Controlled growth of the cubic GaN on hexagonal substrates is demonstrated. This result shows promise to synthesize structurally modulated superlattices  $(h\text{-GaN})_m/(c\text{-GaN})_n$ , in which the bandgap can be engineered by changing the periodicity.



Y. Cui et al., APL **82**, 4666 (2003).

HRTEM micrographs and their respective digital diffractograms of a hexagonal/cubic/hexagonal GaN heterostructure grown on 6H-SiC(0001) by plasma-assisted MBE.

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## Education:

One undergraduate student (Michelle Goetz), and two graduate students (Vlado Lazorov and Yongjie Cui) contributed to this work.

Undergraduate Michelle Goetz co-authored the paper referenced on the previous page. Vlado Lazorov received the Best Student Presentation Award at the Annual Student Symposium of the Laboratory for Surface Studies, University of Wisconsin, Milwaukee (UWM).

Yongjie Cui received his Ph.D. in 2002 and is presently a postdoc at the Northwestern University in Evanston, Illinois.

The PI has secured a Lab Mod fund from the College of Letters and Science, UWM, and is in the process of modernizing one undergraduate lab. In the modified lab, most of the measurements will be computerized.

## Outreach:

Using the scanning tunneling microscope housed in the PI's laboratory, Professor Li has regularly demonstrated vacuum tunneling in freshmen seminars and modern physics classes.