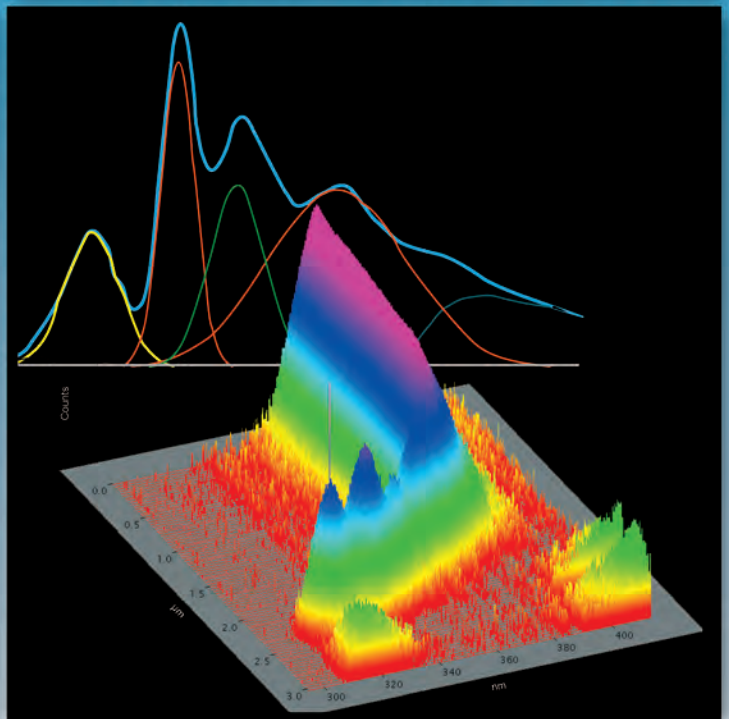
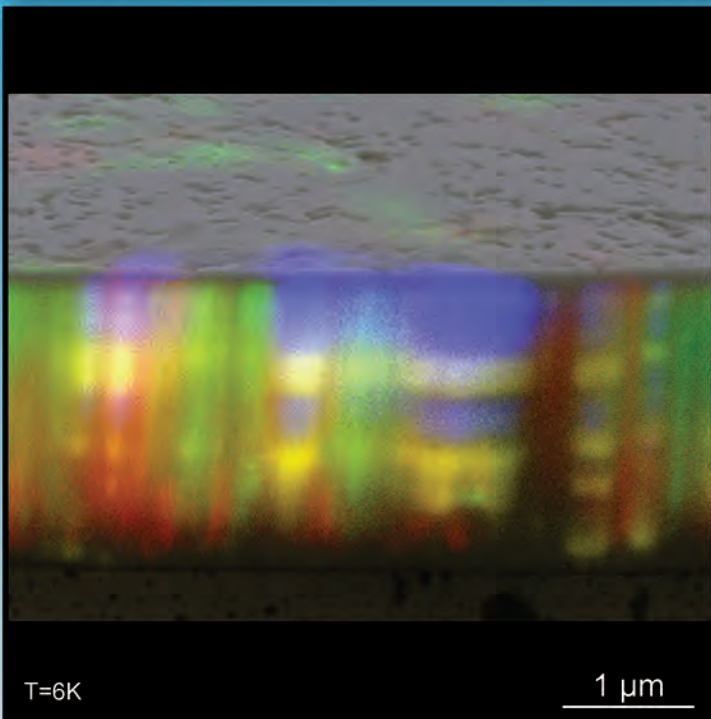
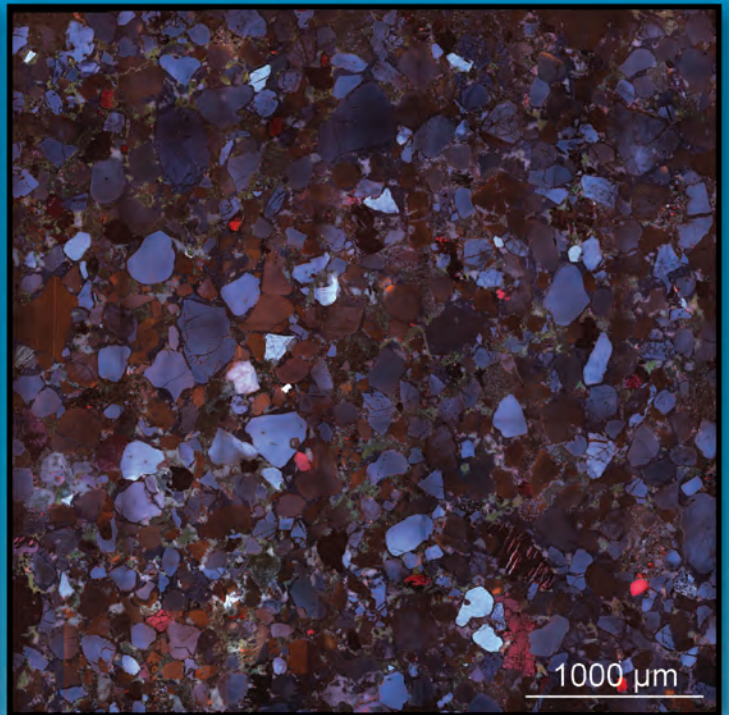
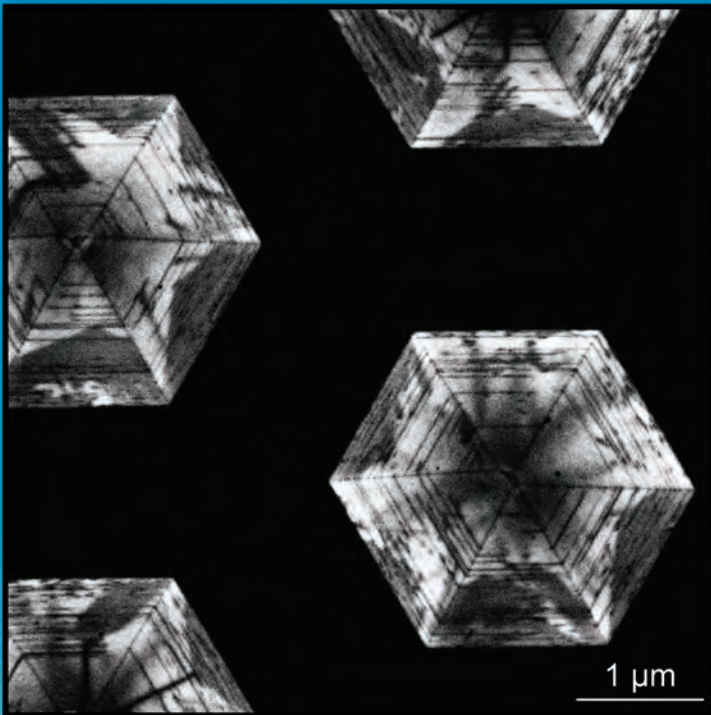


Cathodoluminescence Imaging and Spectroscopy for All Applications



Images, clockwise from top left: (Top Left) Panchromatic cathodoluminescence image of AlGaN pyramids imaged with Gatan MonoCL4™ imaging system showing extended defects and regions of high point defect concentration. (Top Right) Reservoir quartz of mixed provenance displaying healed fractures and chemical overgrowths. Sample prepared using the Gatan Iliion™ and super-image-acquired using Gatan ChromaCL2™ imaging system and CHFS32. (Bottom Right) Four AlGaN concentrations revealed in graded Al_xGa_{1-x}N on GaN film using spectrum-linescan of sample cross section imaged with Gatan MonoCL4™ imaging system. Blue shift in spectrum from 365 to 320 nm associated with change in Al fraction. Spectra acquired at rate of 20 spectra/s. (Bottom Left) Composite image derived from 4 monochromatic CL images plus SE image produced with the Gatan MonoCL4™ imaging system. Results courtesy of Dr. Uwe Jahn of the Paul Drude Institute for Solid State Electronics, Berlin, who used these results to understand the relationship between the metal organic chemical vapor deposition parameters and the material quality for (Al,Ga)N layers grown on sapphire.



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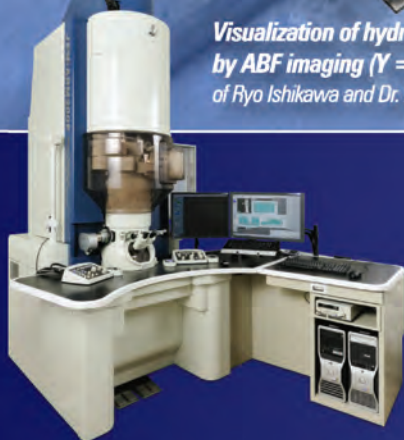
ABF, HAADF and EELS
 $\text{Ca}_3\text{Co}_4\text{O}_9$ (110)

Data courtesy of Dr. Robert Klie,
University of Illinois at Chicago

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Visualization of hydrogen atomic columns in YH_2
by ABF imaging (Y = red, H = green) Data courtesy
of Ryo Ishikawa and Dr. Eiji Abe (The University of Tokyo)

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