

THE WASHINGTON NANOFABRICATION FACILITY AT THE UNIVERSITY OF WASHINGTON

JEOL JBX-6300FS ELECTRON BEAM LITHOGRAPHY

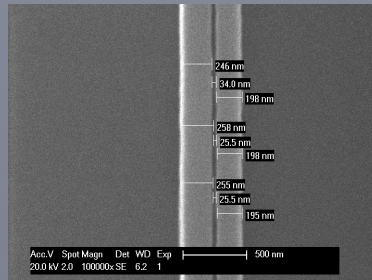


WORLD-CLASS NANOLITHOGRAPHY AVAILABLE FOR YOUR RESEARCH

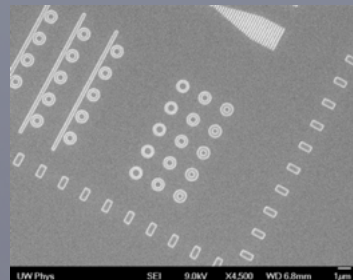
The JEOL JBX-6300FS brings 100 keV direct-write electron-beam lithography to the Pacific Northwest, providing sub-10 nm resolution. This system is housed in a custom cleanroom extension to University of Washington's Nanofabrication Facility, a public-access user facility in Seattle, WA.



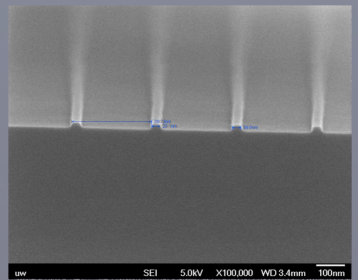
UNIVERSITY LOGO BY DIRECT
WRITE EBL



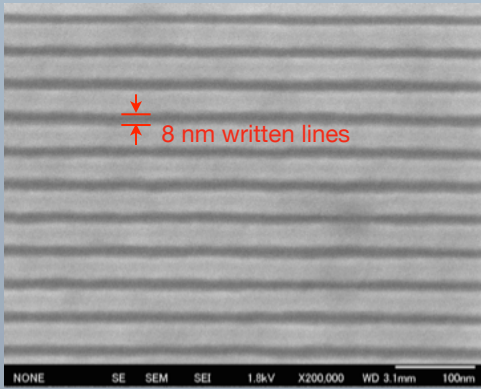
25 NM SLOT WAVEGUIDE



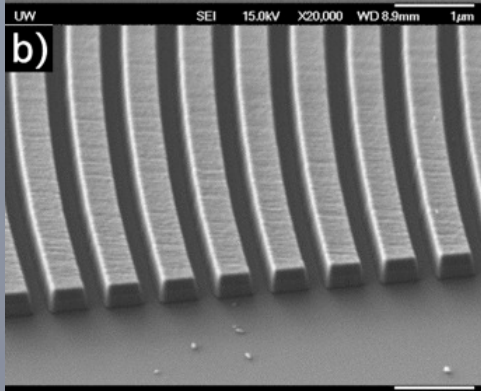
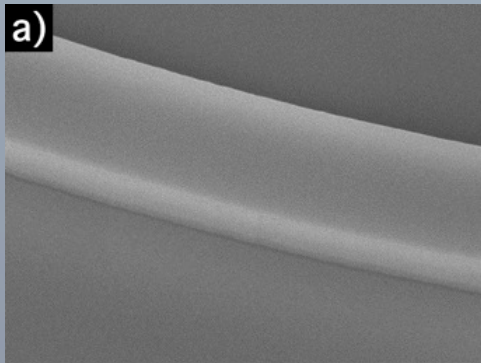
PHOTONICS STRUCTURES
ETCHED IN III-V MATERIALS



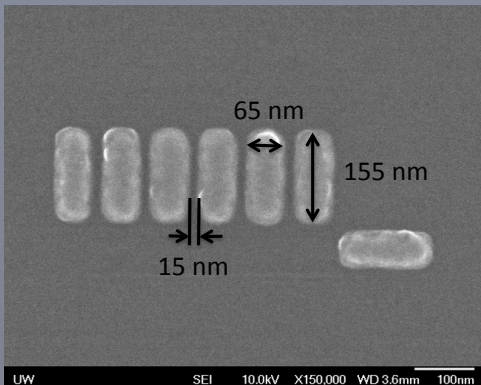
30 NM SILICON NANOWIRES



8 NM WRITTEN LINES, 30 NM PERIOD



WAVEGUIDE AND GRATING COUPLER FOR SILICON PHOTONICS



NANOMAGNETS BY DIRECT-WRITE E-BEAM AND LIFTOFF

USING THE JEOL JBX-6300FS E-BEAM SYSTEM

This e-beam system is available as a public resource to nanotech researchers through the University of Washington's Nanofabrication Facility (WNF). It is available to academic researchers at a subsidized user rate, and to commercial researchers at competitive rates.

Complementing this new e-beam lithography capability, the WNF and NTUF facilities offer a full suite of microfabrication and characterization capabilities.

For details, see: <http://wnf.uw.edu/>

SPECIFICATIONS AND CAPABILITIES

Dual-mode deflection system.

High-Resolution mode features 0.125 nm positioning grid and a 62.5 µm exposure field, while High-Speed mode has a 1 nm positioning grid in a 500 µm exposure field

Minimum feature size capability below 8 nm, with local variation and line edge roughness each < 1 nm σ .

Pattern data accepted in industry-standard GDS-II format. Other formats also accepted.

World-class pattern data processing using GenlSys data prep software, including state-of-the-art Proximity Correction capability, and fully automated pattern processing including coarse/fine split, sleeving, conditional dose assignments.

100 KeV primary electron energy, for a spot size below 3 nm at the wafer surface

Resist processes available include: positive, negative, inorganic, and multi-layer. A range of thicknesses available, for additive (liftoff) or subtractive (etching) processing.

Flexible substrate handling, including wafers from 2"-6", chips from 1 cm to 2". Other sizes may also be accommodated.

Beam current range from 20 pA to > 20 nA, providing beam diameters from 3 nm to 20 nm.

Laser interferometer stage positioning to $\lambda/1024$, or 0.6 nm.

For more information or to inquire about utilizing the JEOL JBX-6300FS Electron Beam Lithography System in your research program, contact:

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