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# JSM-7800F PRIME

Highest performance FE SEM with sub-nanometer resolution

The JSM-7800F PRIME outperforms any other FE SEM available, making it possible to:

- Observe the finest structural morphology of nanomaterials at up to 1,000,000X magnification with 7Å resolution at 1kV
- Image and analyze highly magnetic samples
- Image thin, electron transparent samples with sub 7Å resolution in STEM-in-SEM mode

The JSM-7800F PRIME Advantage:

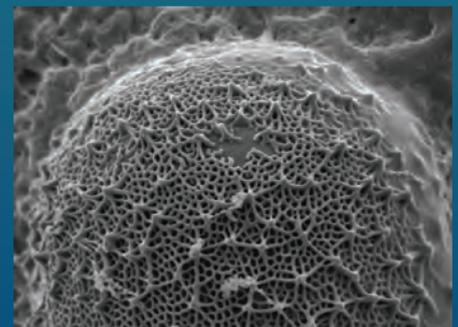
- Easy-to-use intuitive user interface
- Ultra-low kV imaging down to 10V
- Through-the-lens detector with energy filter for SE/BSE collection
- Aberration Correction Lens (ACL) for superb resolution at any kV or probe current
- Gentle Beam (GBSH) mode reduces effects of lens aberrations at the sample (stage bias up to 5kV)
- Unique backscatter detector allows image acquisition even at very low kVs with high resolution
- Large specimen chamber with multiple ports

The JSM-7800F PRIME uniquely combines an in-lens field emission gun with an aberration-reducing ACL lens, optimizing small probe diameters for imaging and analysis at any probe current. The new super hybrid lens design allows high resolution imaging of any type of specimen.

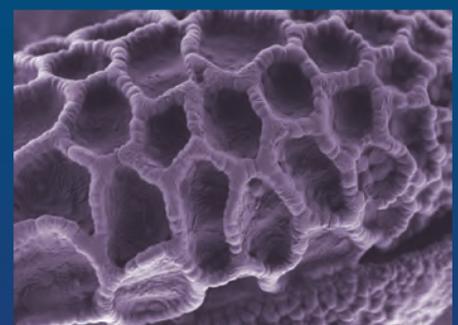
The JSM-7800F PRIME is suitable for a wide variety of applications, from cryo-microscopy to electron beam lithography. It can accommodate multiple analytical attachments, including EDS, WDS, STEM, EBIC, CL, EBSD, etc. It can also be equipped with tensile, heating, and cooling stages for in situ experiments. The system can be configured for low vacuum operation for imaging of non-conductive samples.



Magnetic domains with EBSD – high indexing rate and magnetic contrast



CryoSEM image of Penium (Skidmore College)



Surface of a pollen grain

SEI Resolution	7Å at 15kV, GB mode 7Å at 1.0kV, GB mode 3.0nm at 100V, GB mode 3.0nm at 15kV, 5nA (WD=10mm)
Accelerating Voltage	10V – 30kV
Magnification Range	25X – 1,000,000X
Low Vacuum Mode Pressure	10Pa – 300Pa
Resolution in Low Vacuum Mode	Backscattered electron image: 1.5nm (30pA, 30 kV)
Maximum Probe Current	In high vacuum mode: > 500nA In low vacuum mode: 20nA

Content courtesy of JEOL USA