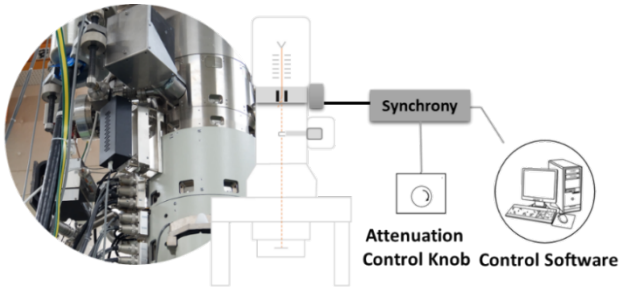
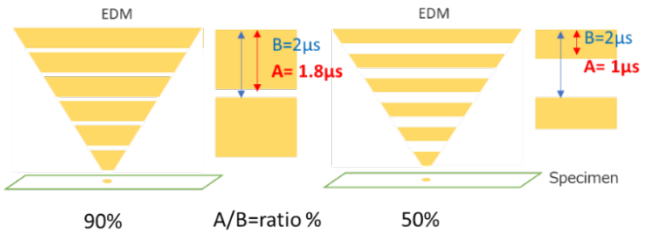
EDM Synchrony - Electron Dose Modulation And So Much More

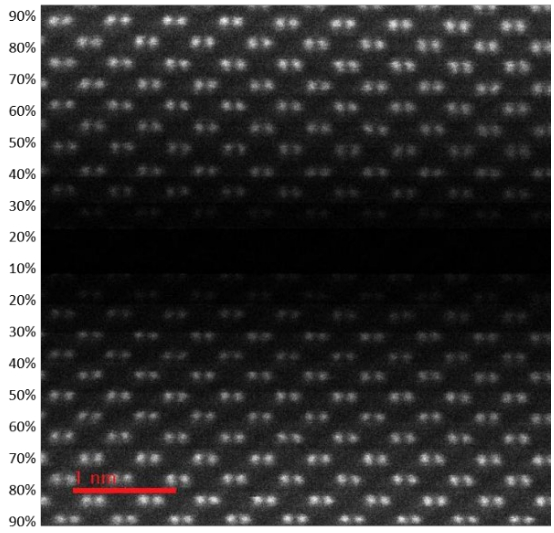
The Electrostatic Dose Modulator (EDM) is a fast beam blanking system with a pre-sample electrostatic deflector that includes electronics and software control. With EDM, the beam can switch on or off in less than 50 ns. This 100,000x improvement in blanking speed results in immediate enhancement in the clarity of data taken at fast exposure times. Moreover, EDM includes a desktop control knob that allows users to easily attenuate electron dose without affecting imaging conditions. The included software interface gives TEM and STEM users direct access to EDM's pulse width modulation parameters providing exceptional control over the dose rate on their samples – invaluable feature for beam sensitive specimen imaging and analysis.



Synchrony works in conjunction with **EDM** to allow nanosecond timing control and synchronization of STEM for programable and precise localized dose control in both space and time. In Programmable Scan mode users can adjust the dose per pixel in a STEM scan using the "dose painting" software interface. Or they can switch to temporal mode to define arbitrary electron pulse timing on their specimens as well as trigger lasers or specimen holders to create "pump-probe" experiments. Key features include:



- **Lightning-fast speeds -** EDM systems achieve switching times faster than 50ns.
- **Independent intensity adjustment -** By rapidly turning the beam on and off with variable pulse widths, the EDM makes it easy to adjust the average beam intensity without changing the image conditions. A knob provides an intuitive interface to adjust the dose attenuation factor
- **Dose structuring –** Users can easily control their illumination by applying dose in pulses with variable durations as short as 100 ns and frequencies up to 500 kHz.
- ***Synchrony*** - Program the dose per-pixel in STEM scans , laser timing control for pump-probe experiments
- **Modern control software, open API, and integration**



About IDES

IDES is a JEOL company and the leader in the field of Ultrafast and Dynamic TEM, specializing in pulsed lasers and high-speed electrostatic beam blanking and deflection technologies. IDES products add time resolution to the TEM imaging capabilities enabling new applications and the exploration of the dynamics of specimens across a range of very fast time scales.