

PHYSICS OF NANO-ELECTRONIC MATERIALS GROUP



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de Madrid

EQUIPMENT

SCANNING ELECTRON MICROSCOPE (SEM)



HITACHI S-2500



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SCANNING ELECTRON MICROSCOPE (SEM)



LEO-LEICA Stereoscan 440



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SCANNING ELECTRON MICROSCOPE



FEI INSPEC - S



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CHARACTERIZATION TECHNIQUES IMPLEMENTED IN SEM

CATHODOLUMINESCENCE (CL) - VISIBLE AND NIR RANGES

TIME RESOLVED CATHODOLUMINESCENCE (TR-CL)

ELECTRON BEAM INDUCED CURRENT (EBIC)

X-RAY MICROANALYSIS BY ENERGY DISPERSIVE SPECTROSCOPY (EDS)

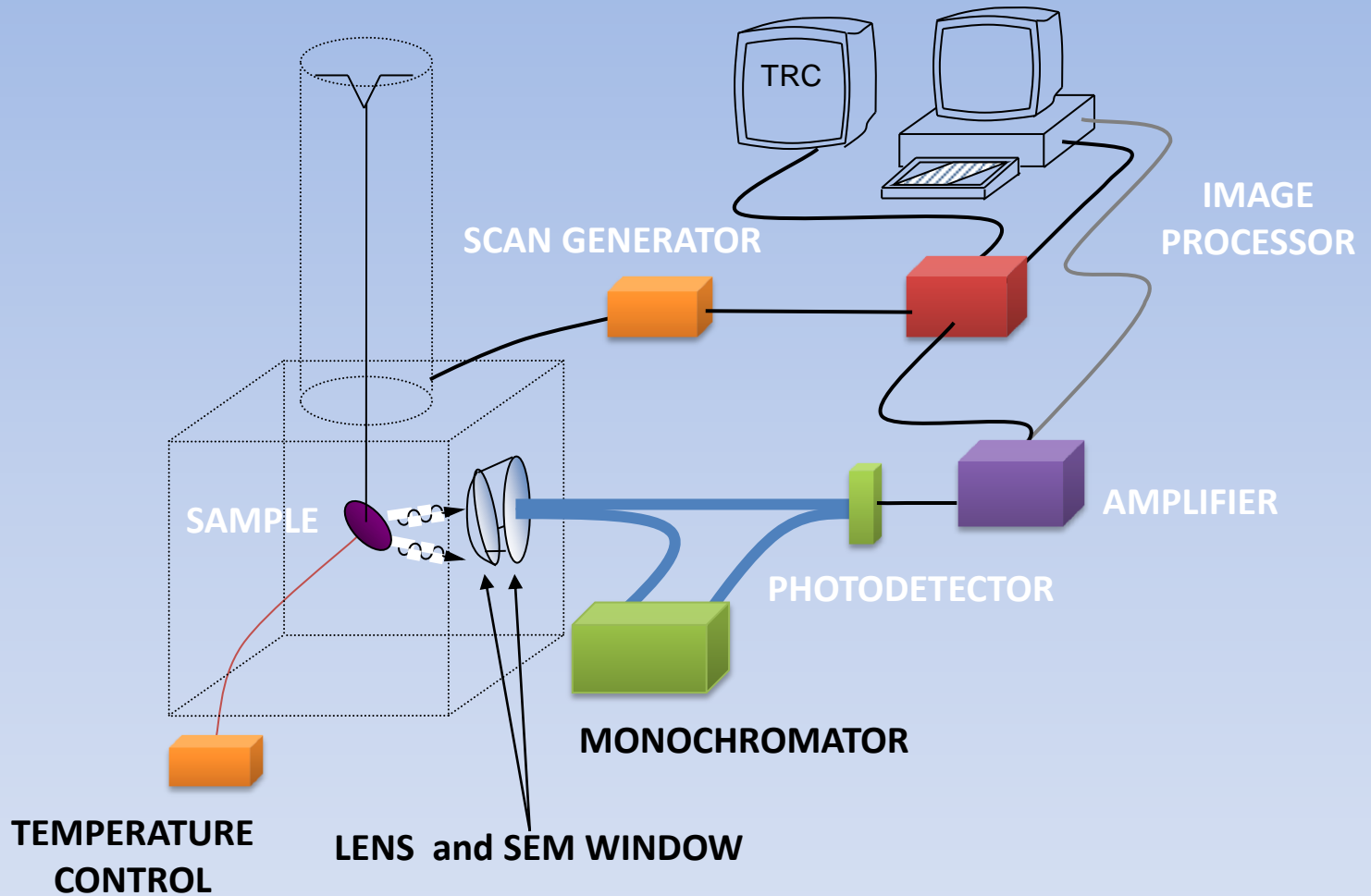
FIELD-EMISSION MEASUREMENTS



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CATHODOLUMINESCENCE -SEM

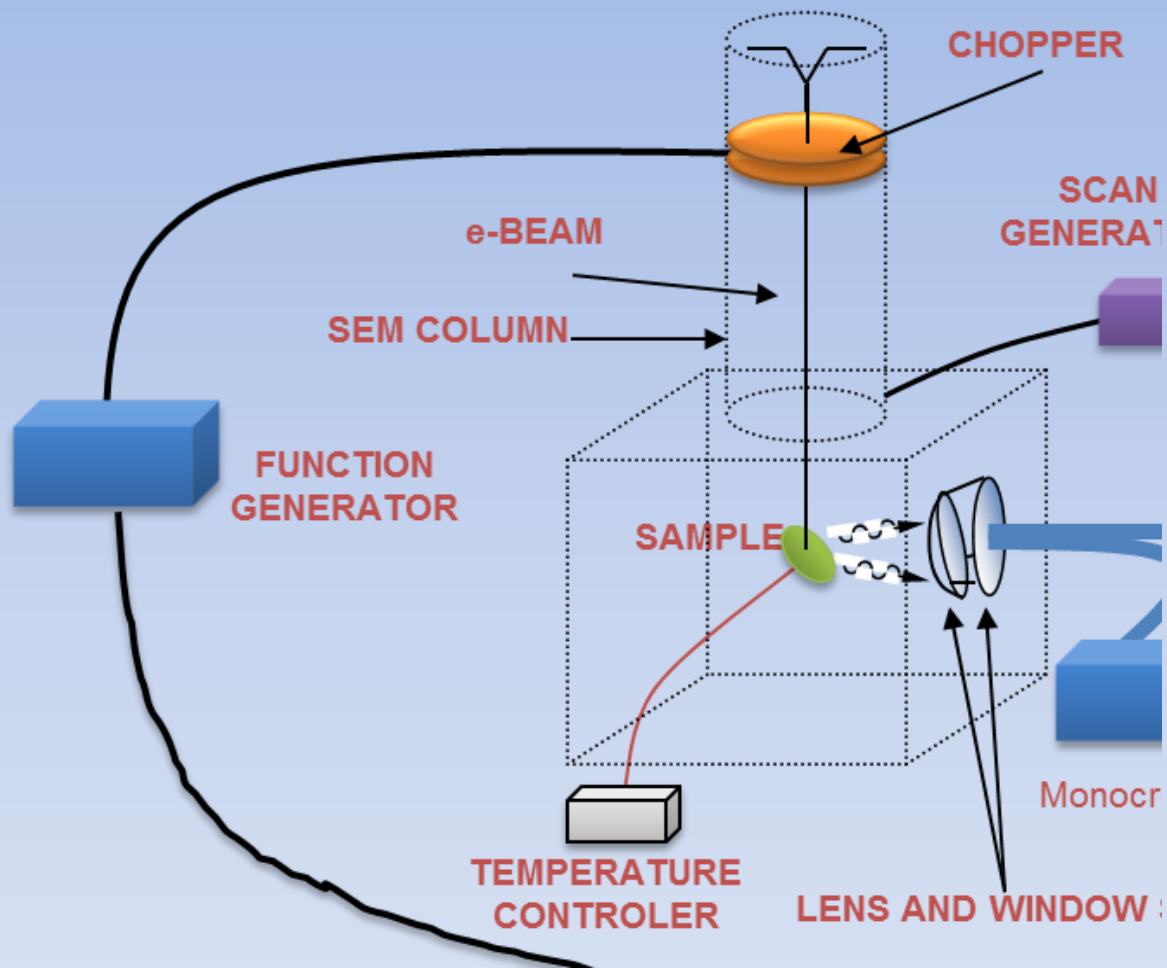


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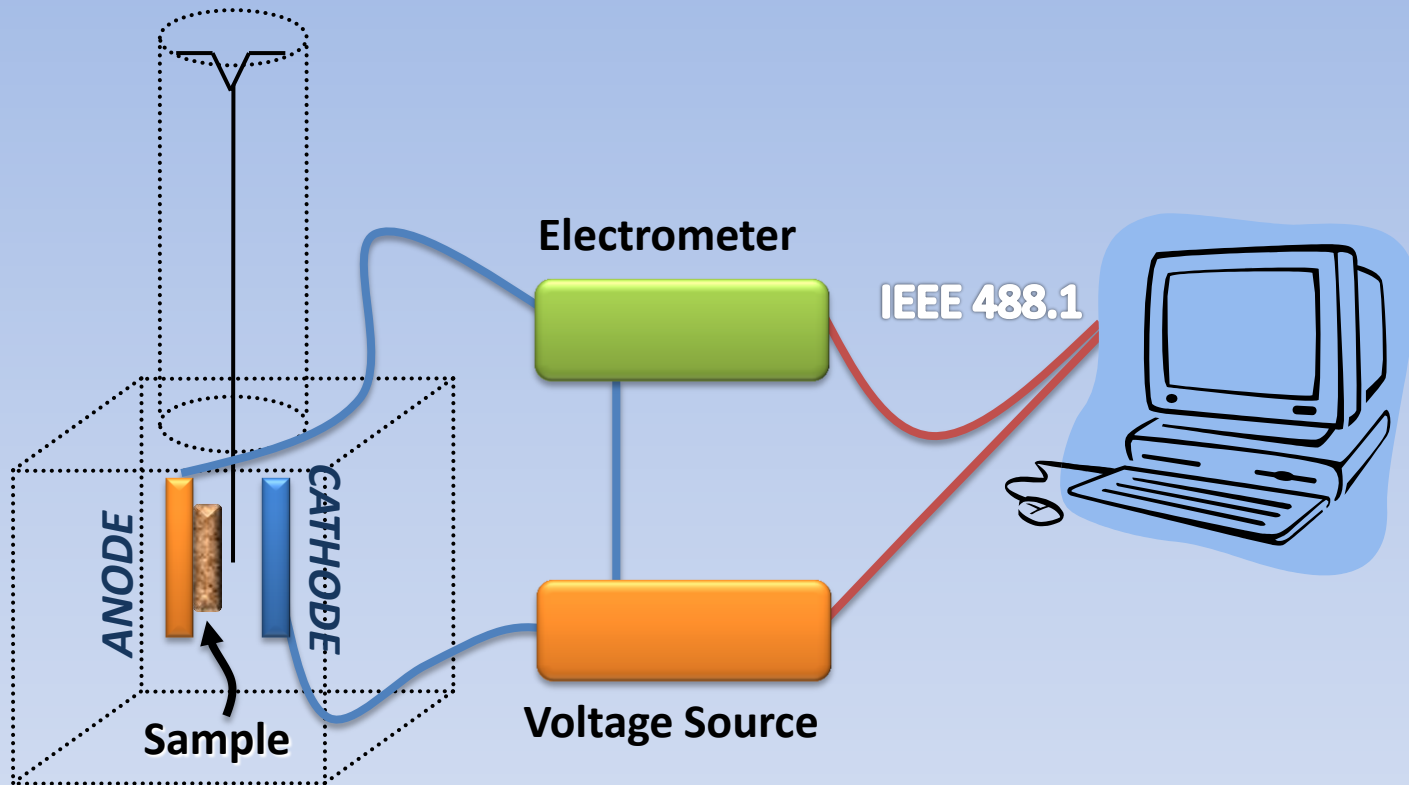
TIME-RESOLVED -CL



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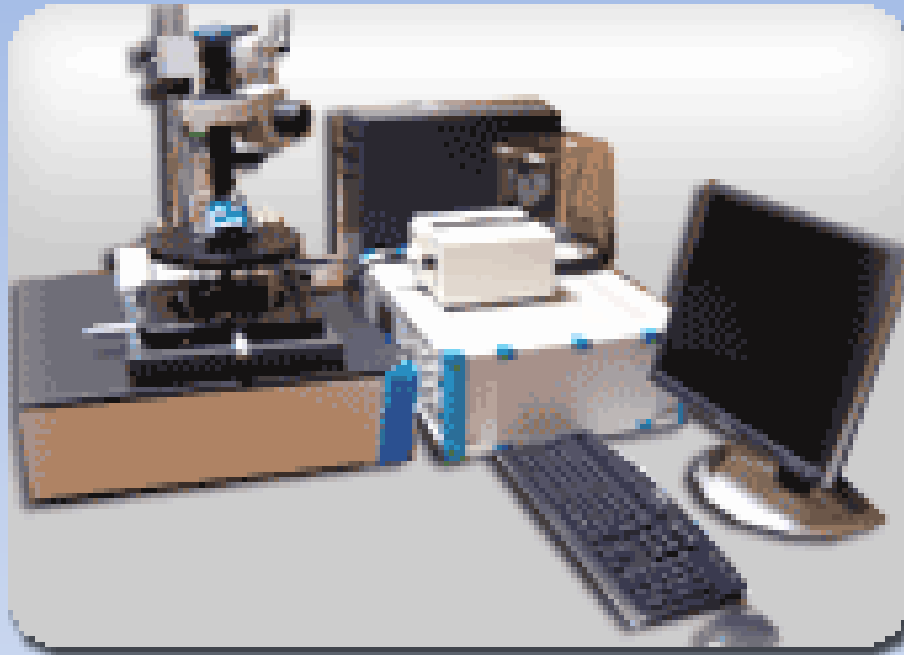
FIELD EMISSION MEASUREMENTS IN SEM



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AFM



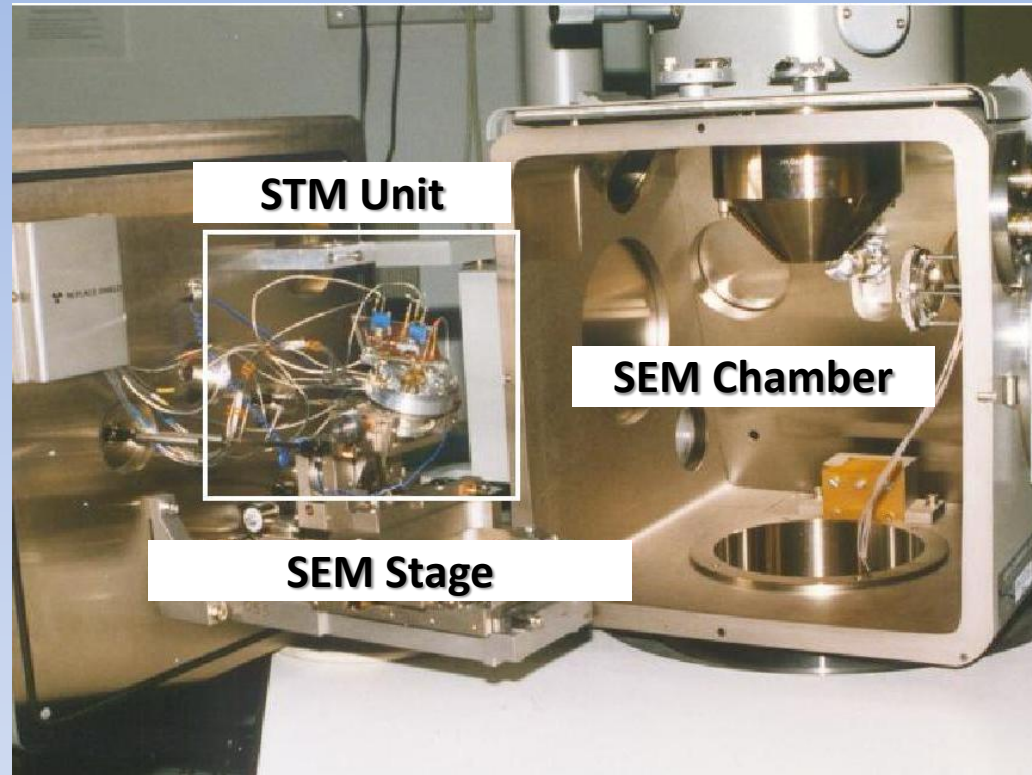
NANOTECH - *Cervantes AFM System*



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STM in SEM chamber (Nanotec)



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CONFOCAL LASER MICROSCOPE (micro-PL and micro-RAMAN)



**Confocal Microscope- Horiba Jobin-Yvon LabRam HR800
He-Cd 365 nm laser**



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Electrical characterization (ρ , I-V, C-V, C-f, ..)

SOURCE-METER
KEITHLEY 2400



CURRENT AMPLIFIER
KEITHLEY 428



ELECTROMETER
KEITHLEY 6514



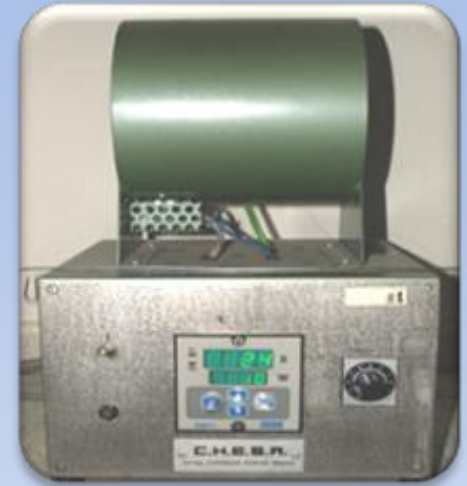
LCR BRIDGE
TEGAM 2610



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FURNACES UP TO 1500 °C



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