

Performance

Figure 2: Dependence of Sample Current on Acceleration Potential

Parameters:

- Gas: Ar
- Sample: Cu
- Sample bias: +27 V
- Source-Sample Distance: 196 mm
- Pressure: 1.3×10^{-5} mbar

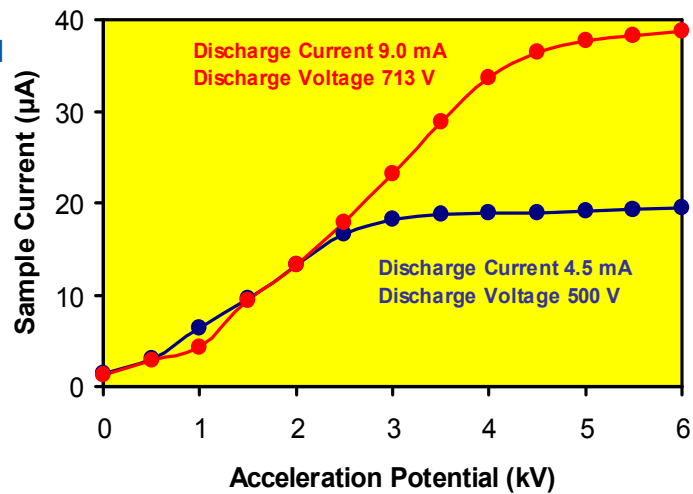


Figure 3: Dependence of Sample Current on Chamber Pressure

Parameters:

- Gas: Ar
- Sample: Cu
- Sample bias: +27 V
- Source-Sample Distance: 196 mm
- Acceleration Potential: 5 kV

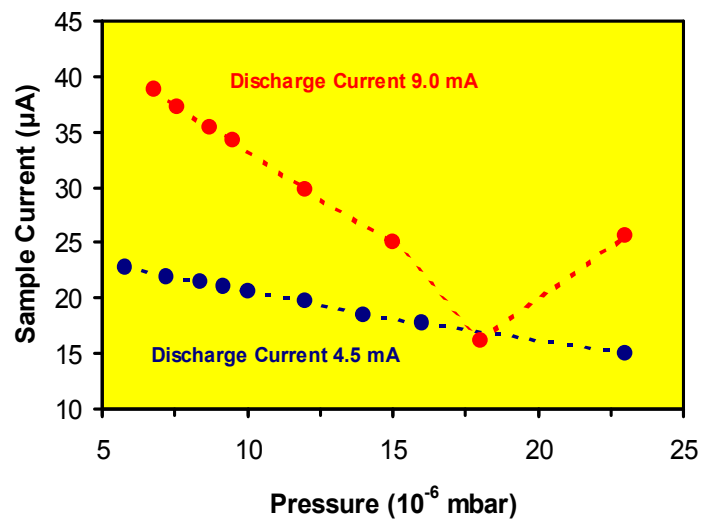
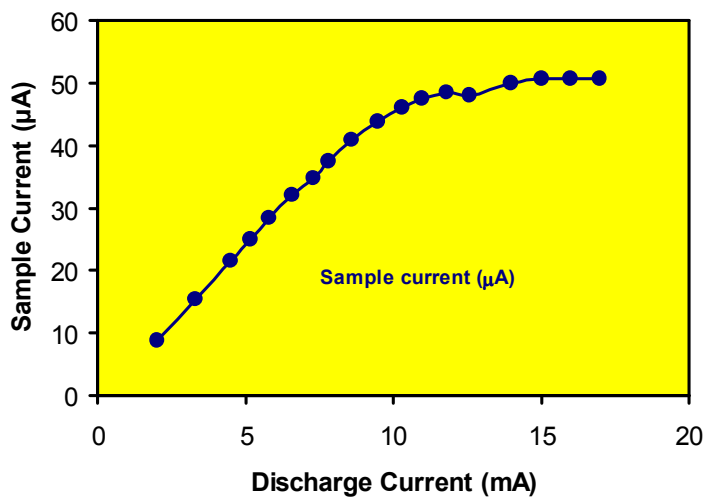


Figure 4: Dependence of Sample Current on Discharge Current

Max. sample current 50 µA,
Max. current density 150 µA/cm²

Parameters:

- Gas: Ar
- Sample: Cu
- Sample bias: +27 V
- Source-Sample Distance: 196 mm
- Pressure: 7.8×10^{-6} mbar
- Acceleration potential: 5 kV



Please note that an increased discharge current leads to a shortening of cathode lifetime!

Beam Specification

Figure 5: Dependence of Beam Diameter on Acceleration Potential

- Measured for three different source-sample distances.
- Parameters:
 - Gas: Ar
 - Sample: Cu
 - Sample bias: + 27 V
 - Pressure: 1.5×10^{-5} mbar
 - Discharge Current: 4.5 mA
 - Discharge Voltage: 500 V
 - Sample Current: 23 μ A

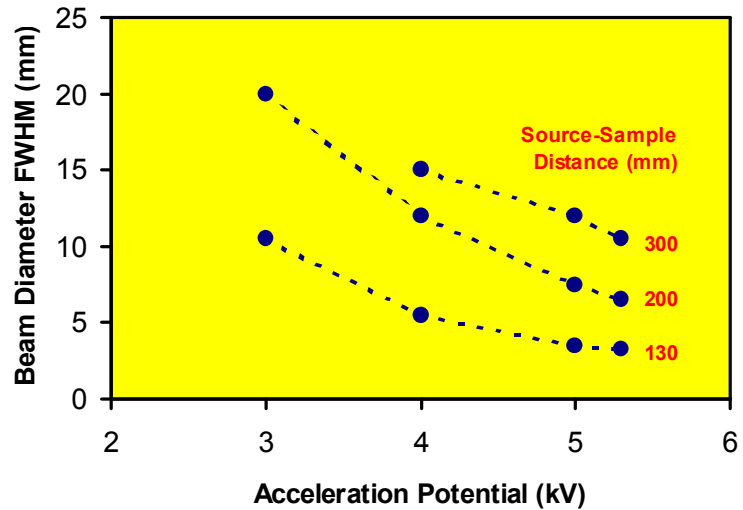
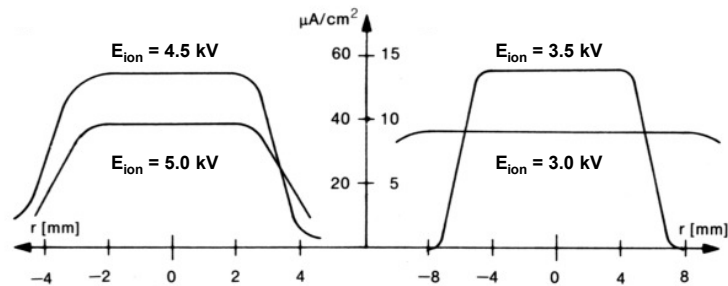


Figure 6: Beam Profile depending on Acceleration Potential.

The beam profile is virtually flat showing a deviation of less than 5% over 60% of the beam diameter.

Parameters:

- Gas: Ar
- Sample: Cu
- Sample bias: + 27 V
- Source-Sample Distance: 200 mm
- Pressure: 1.5×10^{-5} mbar
- Discharge Current: 4.5 mA
- Discharge Voltage: 500 V
- Sample Current: 20 μ A



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