

**30 June 2016****Miling of Chromium coated SiN membrane.****Piercing through the membrane with different doses****11:30****Parameters :**

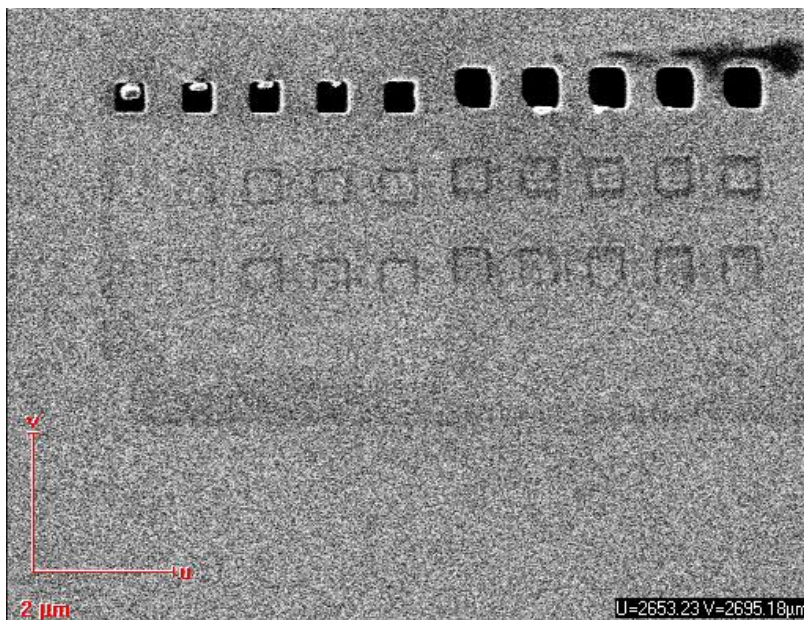
Coating	5 nm Cr
Thickness	5 + 100 nm
Beam	---
Measured current	6.95pA
Loop Factor	20
Line Dose	1000 then 3000 $\mu\text{C}/\text{cm}$
Dot dose	0.10044 then 0.8 pC
Design	Multiple fall
Design Dose factor	1

**Experience and Results:**

Left: Line dose 1000 and Dot dose 0.10044

Right: Line dose 3000 and Dot dose 0.8

From left to right: dose factor ...



A dose of  $20 \times 0.10044 \times df = 2.0088 \mu C$  is enough to pierce through the membrane with dots. For low doses a part of the membrane seems to hold on to a border:



Concerning lines, a dose of  $higherDF \times (20 \times 3000 \mu C/cm) = 60000 \mu C/cm$  is not enough to pierce through the membrane.

**Commentaire [A1]:** And step size ?

To bring forward the importance of doses, we use a new design: *multiplefall-bestdoses* composed of dose factors: 0.1; 0.2; 0.3; 0.4; 0.6; 0.8 on a first line, and 1 to 6 on a second line.

**12:15**

**Parameters :**

Coating	5 nm Cr
Thickness	5 + 100 nm
Beam	---
Measured current	6.95 pA
Loop Factor	20
Line Dose	1000 $\mu\text{C}/\text{cm}$
Dot dose	0.1 pC
Design	<i>Multiple fall</i>
Design Dose factor	1

**Experience and Results:**

