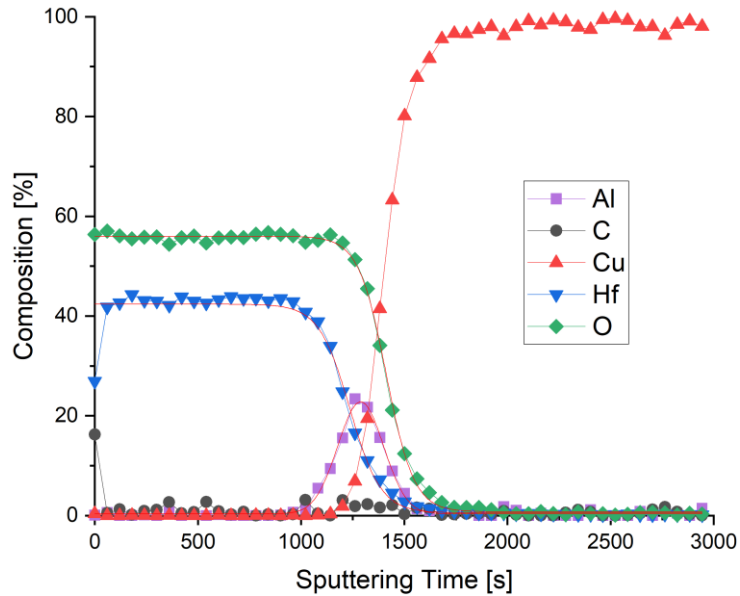
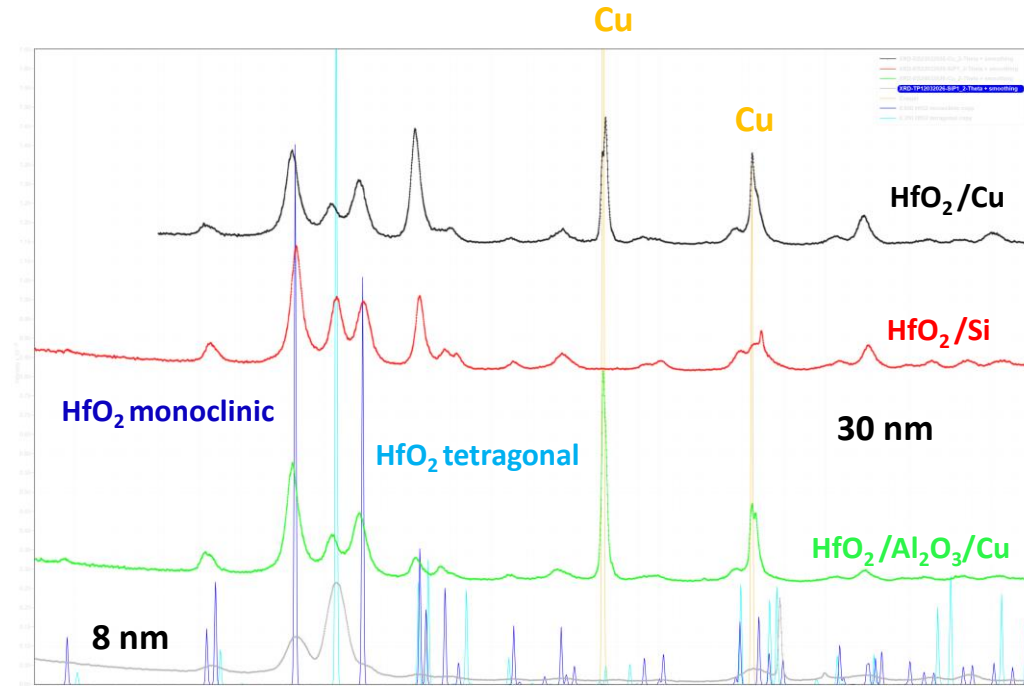
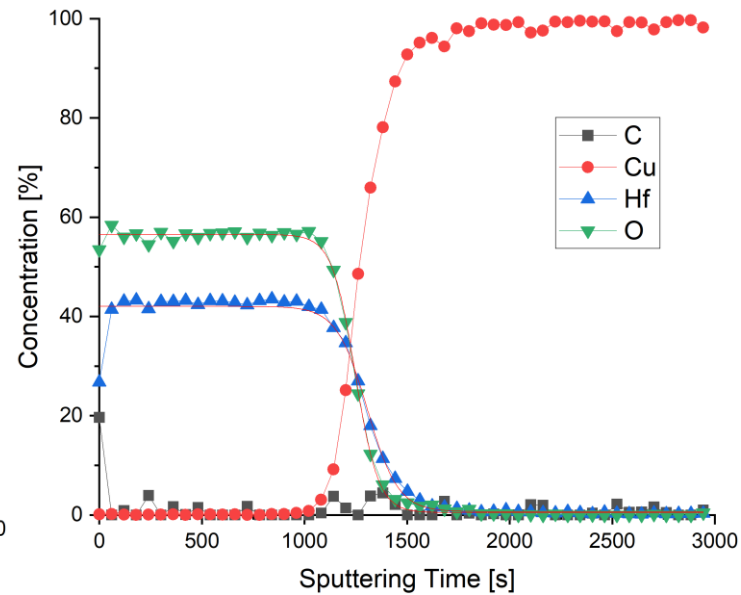


- New alloy HfO_2 or $\text{Al}_2\text{O}_3 - \text{HfO}_2$:

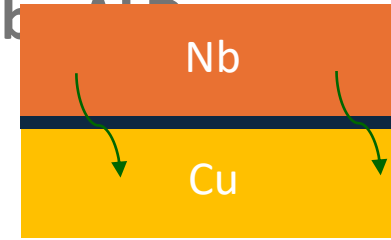
Annealing: 650°C 3 hrs



Annealing: 650°C 3 hrs



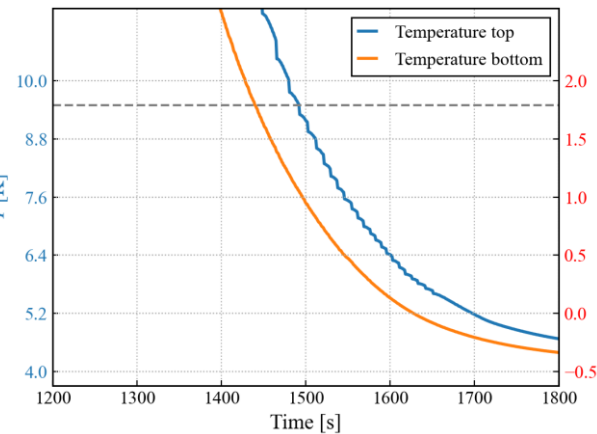
- Crystalline as grown (does not change after annealing)
- Resist annealing and no diffusion of Cu at the surface.



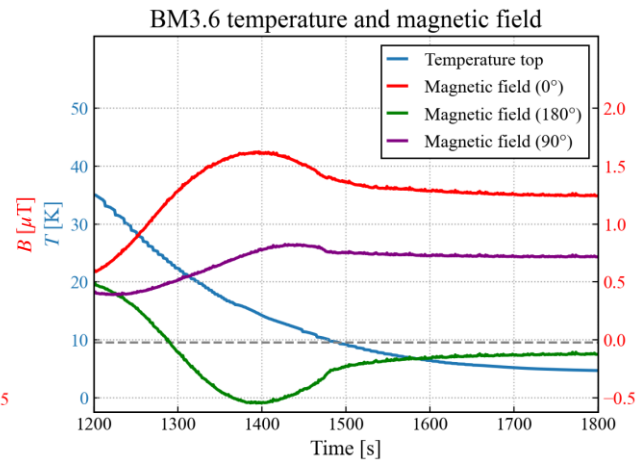
Tests on Cu cavities:

- > change parameters: cavity stored under N2 + longer temp stability before ALD deposition
- Nb HiPIMS + HPR: no delamination. RF tests underway.
- New test RF at CERN: Al2O3 on Cu cavity – Nb HiPIMS 6 μm

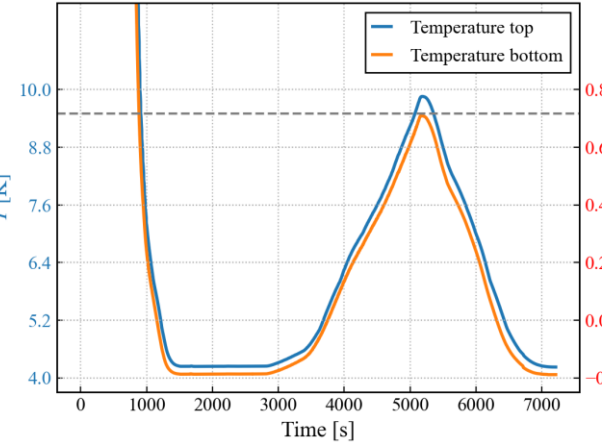
Suppression des thermocourants :



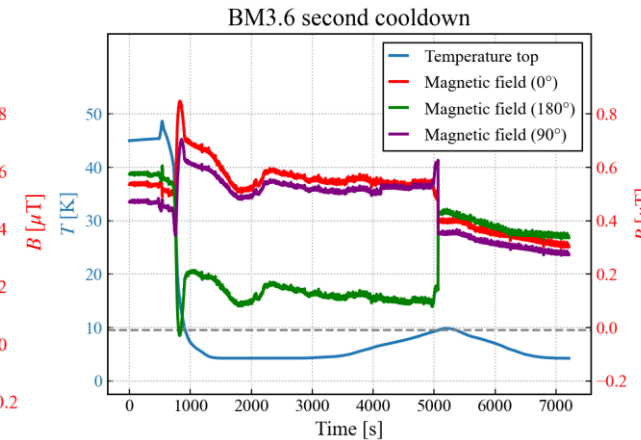
$\Delta T = 1.17 \text{ K}$



$B \sim 1 \mu\text{T} (10 - 50 \mu\text{T})$

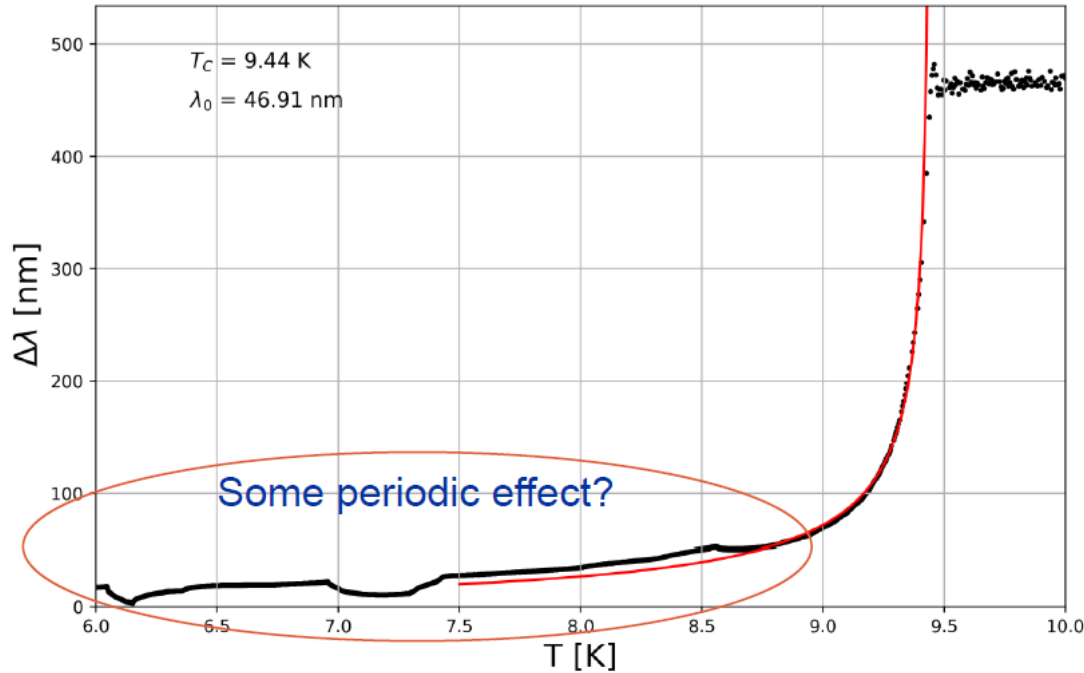


$\Delta T = -0.01 \text{ K}$



$B \sim 0,3 \mu\text{T} (\sim 3 \mu\text{T})$

- New test RF at CERN: Al₂O₃ on Cu cavity – Nb HiPIMS 6 μm



T_c and λ as good as Nb/Cu
 Consistent with XRD, PCT...

- Q slope? -> test different thickness of Al₂O₃ } To see if influence Q onset (thermal conductivity barrier -> Kapitza?)
 -> Amorphous vs Crystalline ZrO₂ }

- Received samples from INFN-LNL: Nb/EP Cu and EP Cu
 - ALD of ZrO_2 (20 nm), Al_2O_3 (20 nm), $Al_2O_3(5nm)-ZrO_2(20nm)$, $AlZrO_x$ (20 nm) on Nb/EP Cu and EP Cu.
 - Ship back to INFN next week.
- Test traction sample:

