
CERN

TE-VSC reporting to:

Superconducting RF R&D coordination meeting 01

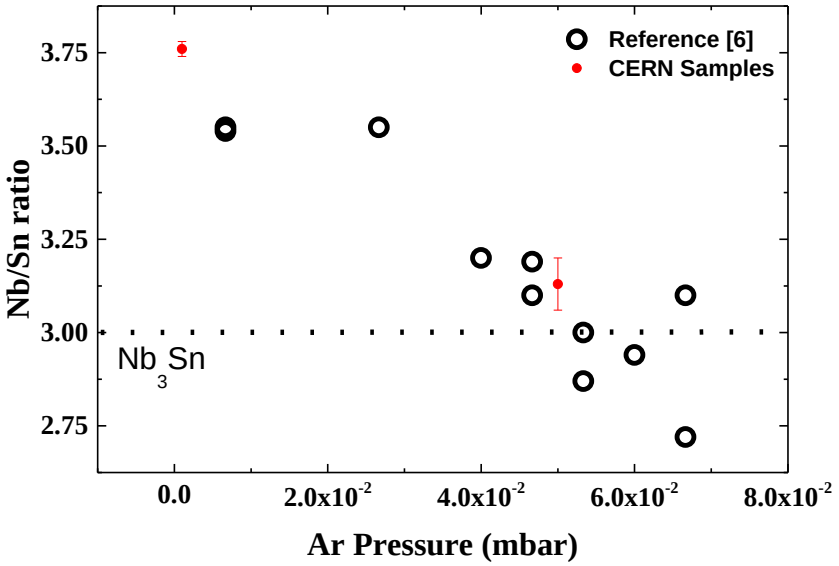
on

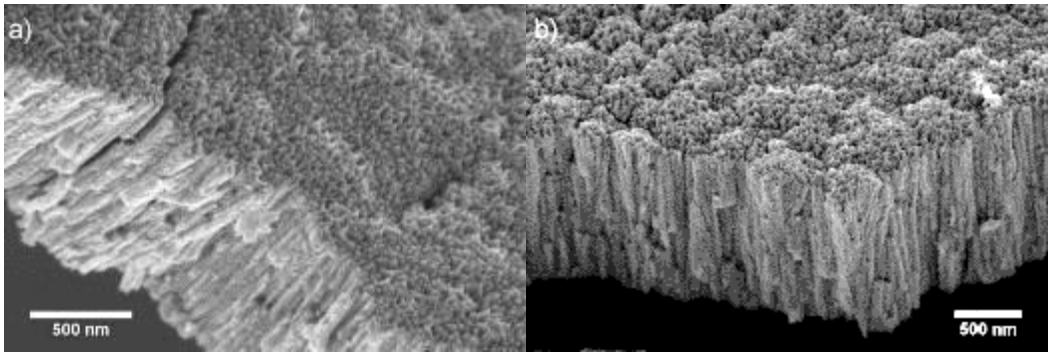
Nb_3Sn magnetron sputtering

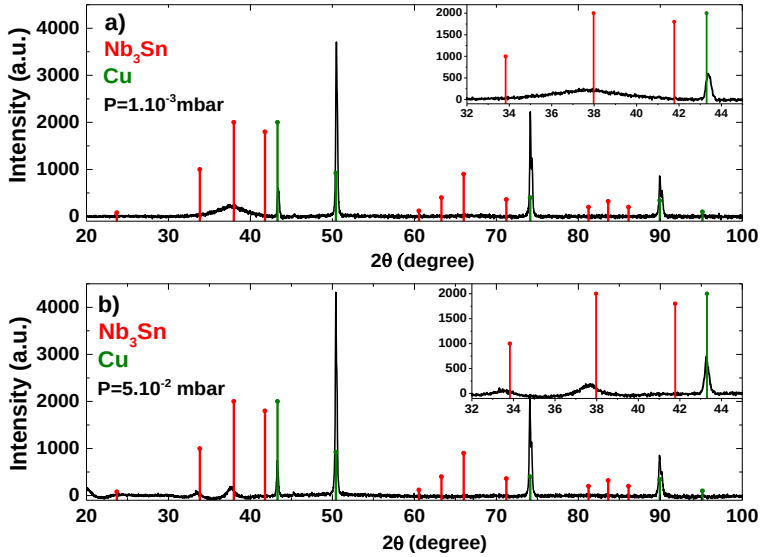
Current status

AS-DEPOSITED FILMS @ RT

- As deposited films composition can be easily tuned by acting on coating pressure
- Films are highly disordered with very small crystallites sizes (<10nm)
- No superconductivity observed







Current Status

- **ANNEALED FILMS**

Annealing temperatures: 700 / 750 / 800 °C

Atmosphere: Vacuum (~1.10^{-6} mbar)

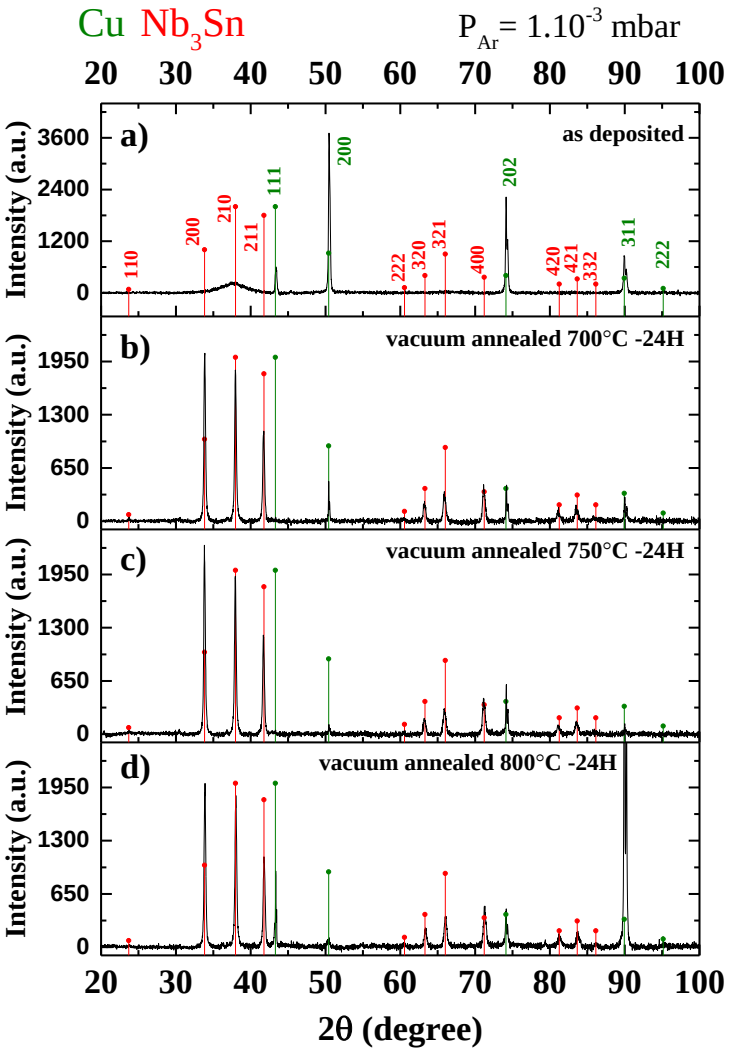
Duration: 24H

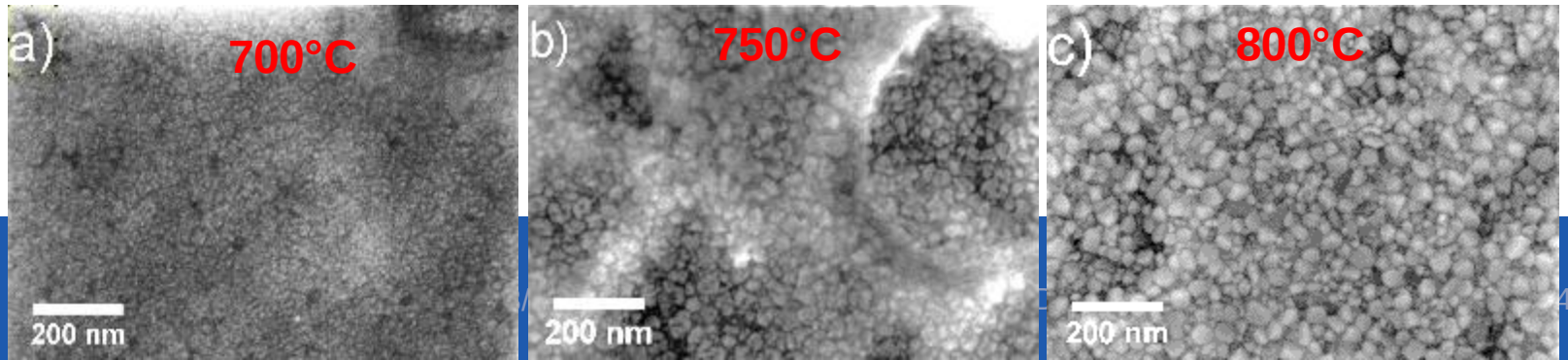
Goal: Obtain A15 superconducting cubic phase

Up to now: 1 film deposited at 1.10^{-3} mbar annealed.

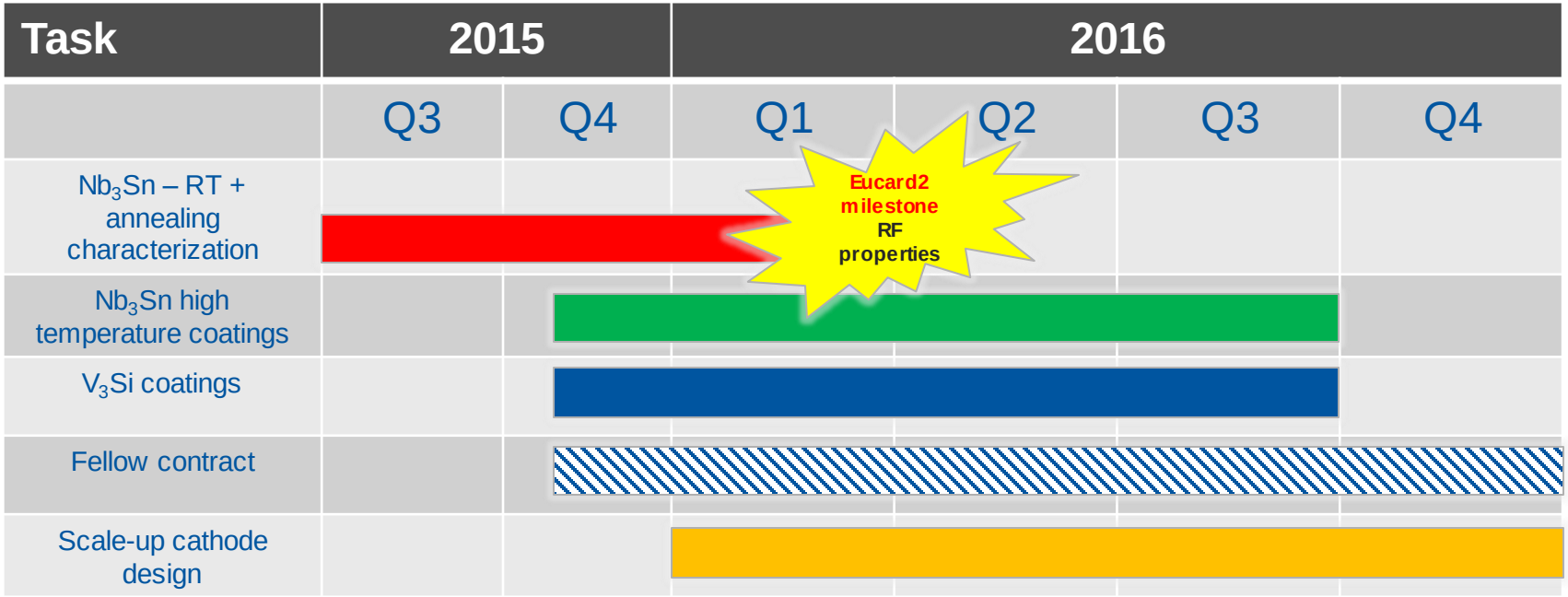
A15 phase obtained (XRD)

Superconducting properties to be characterized





Next steps: transition from EUCARD2 to FCC



EUCARD 2 milestone: March 2016 = RF characterization of Nb_3Sn coating

Nov 2015 : High temperature coatings + V_3Si ramp up