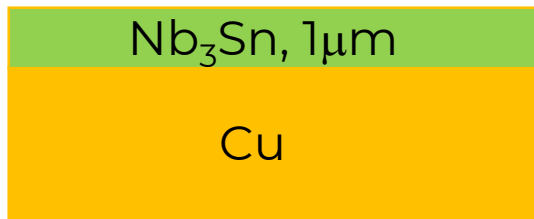


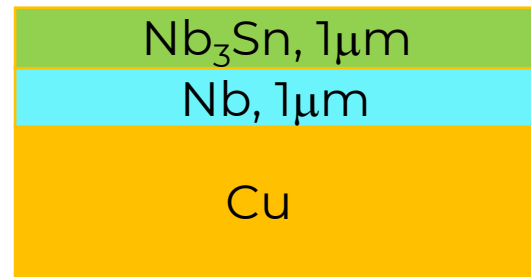


Samples

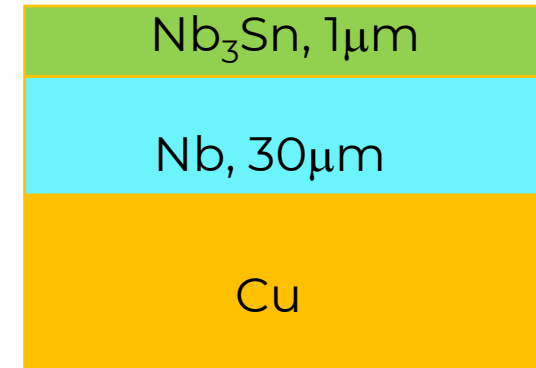
1)



2)



3)

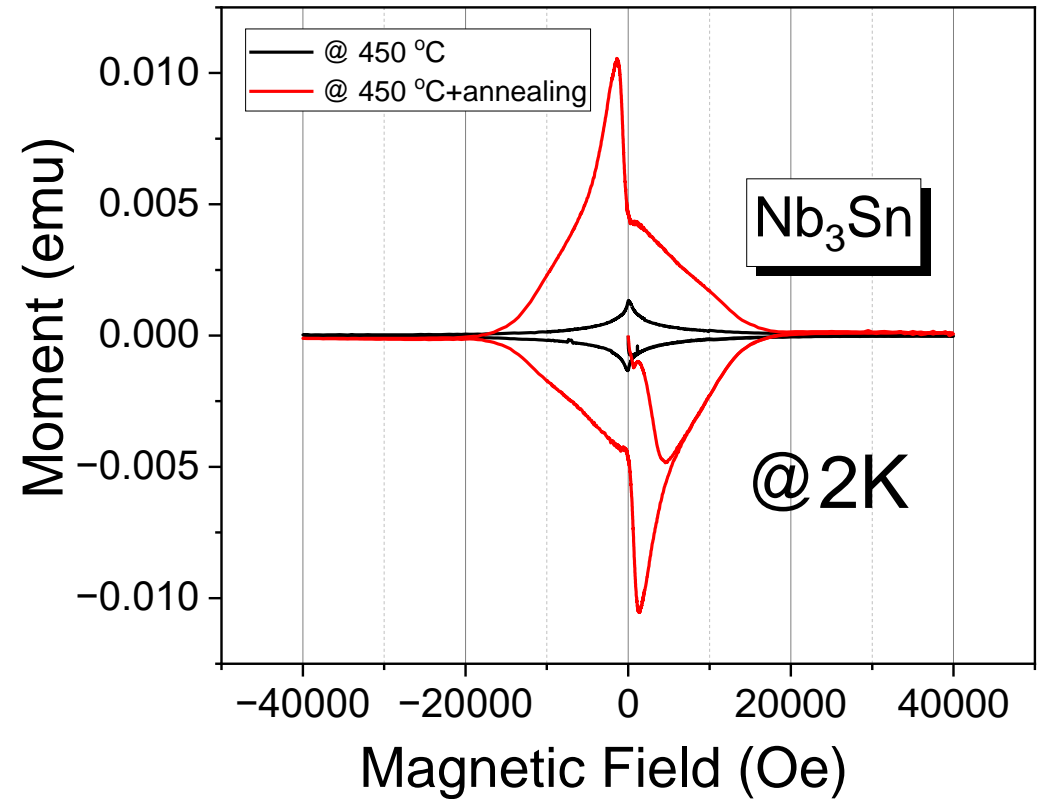
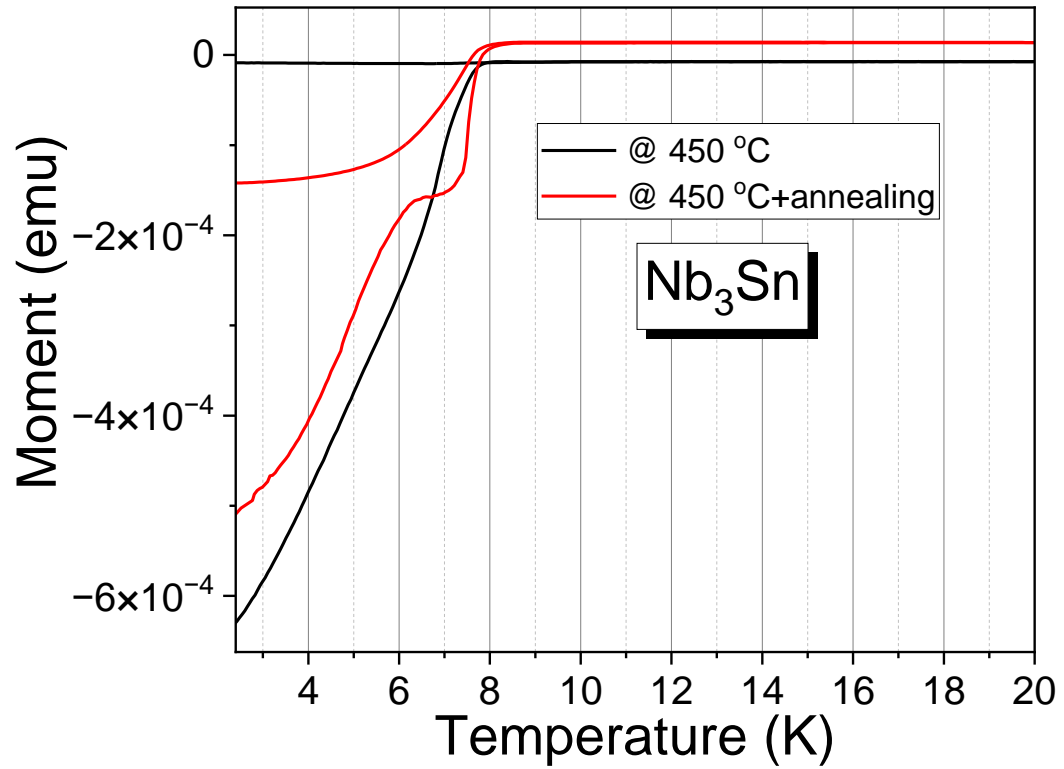


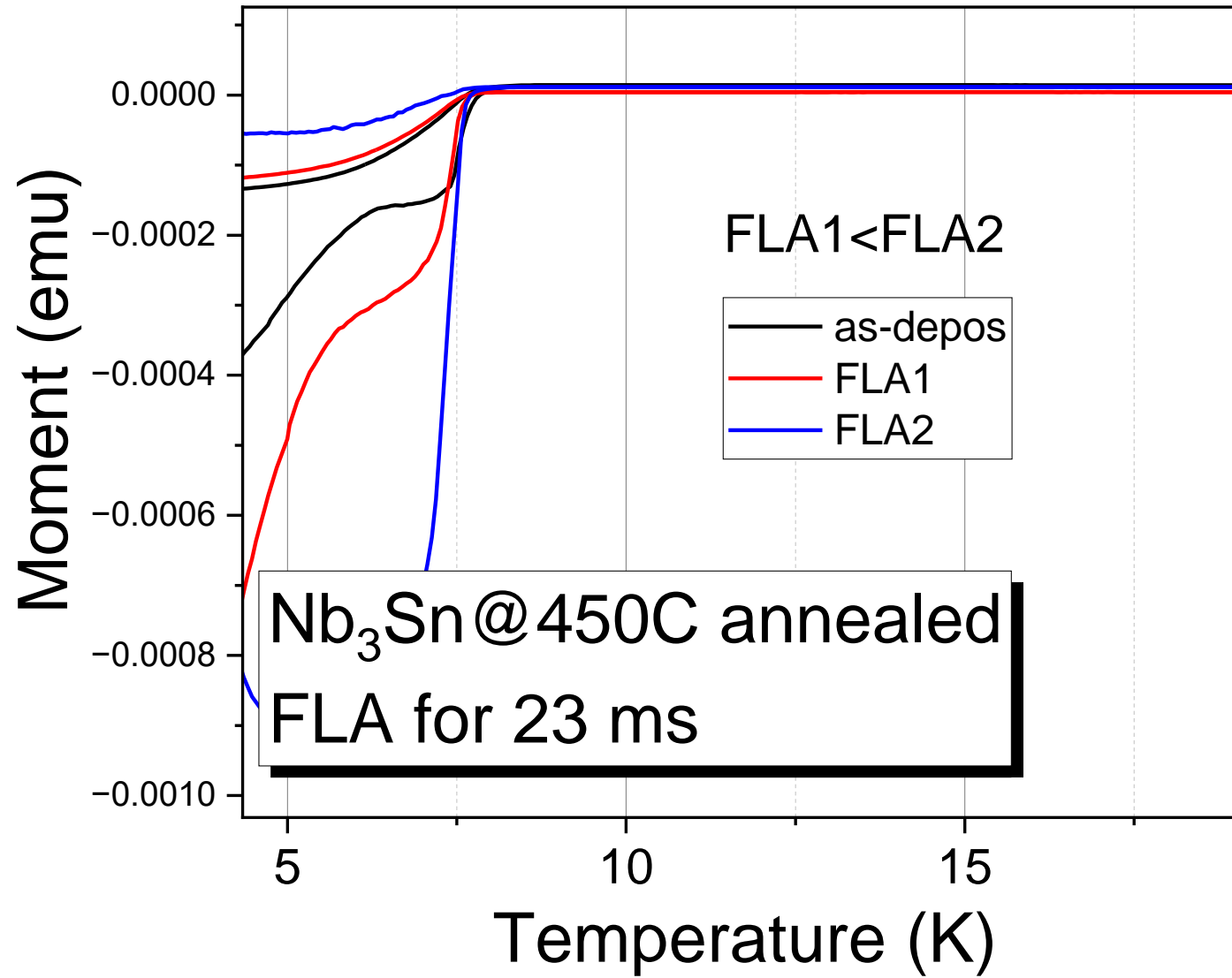
Deposition parameters:

1. 450 °C
2. 450 °C + annealing @ 450°C
3. 650 °C

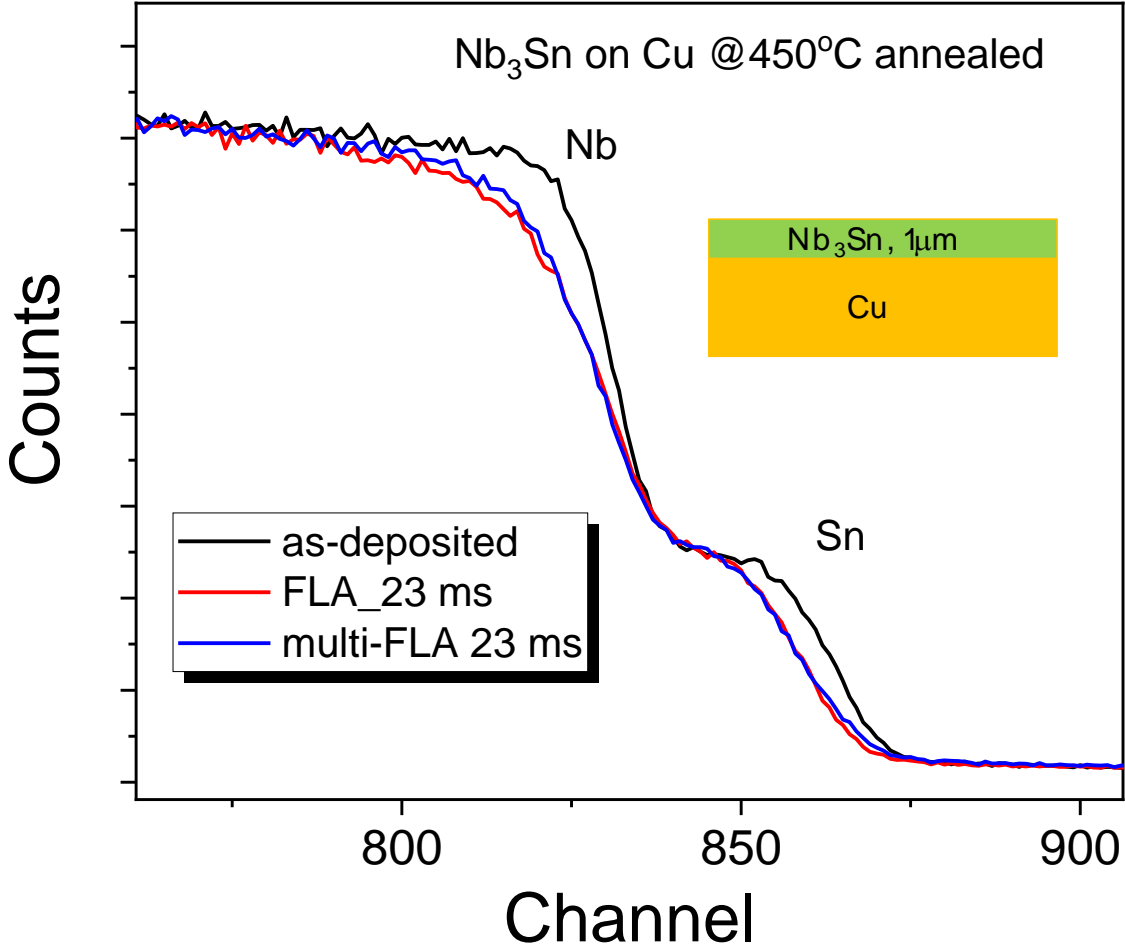
Characterisation methods:

1. SQUID
2. RBS, PIXE
3. XRD

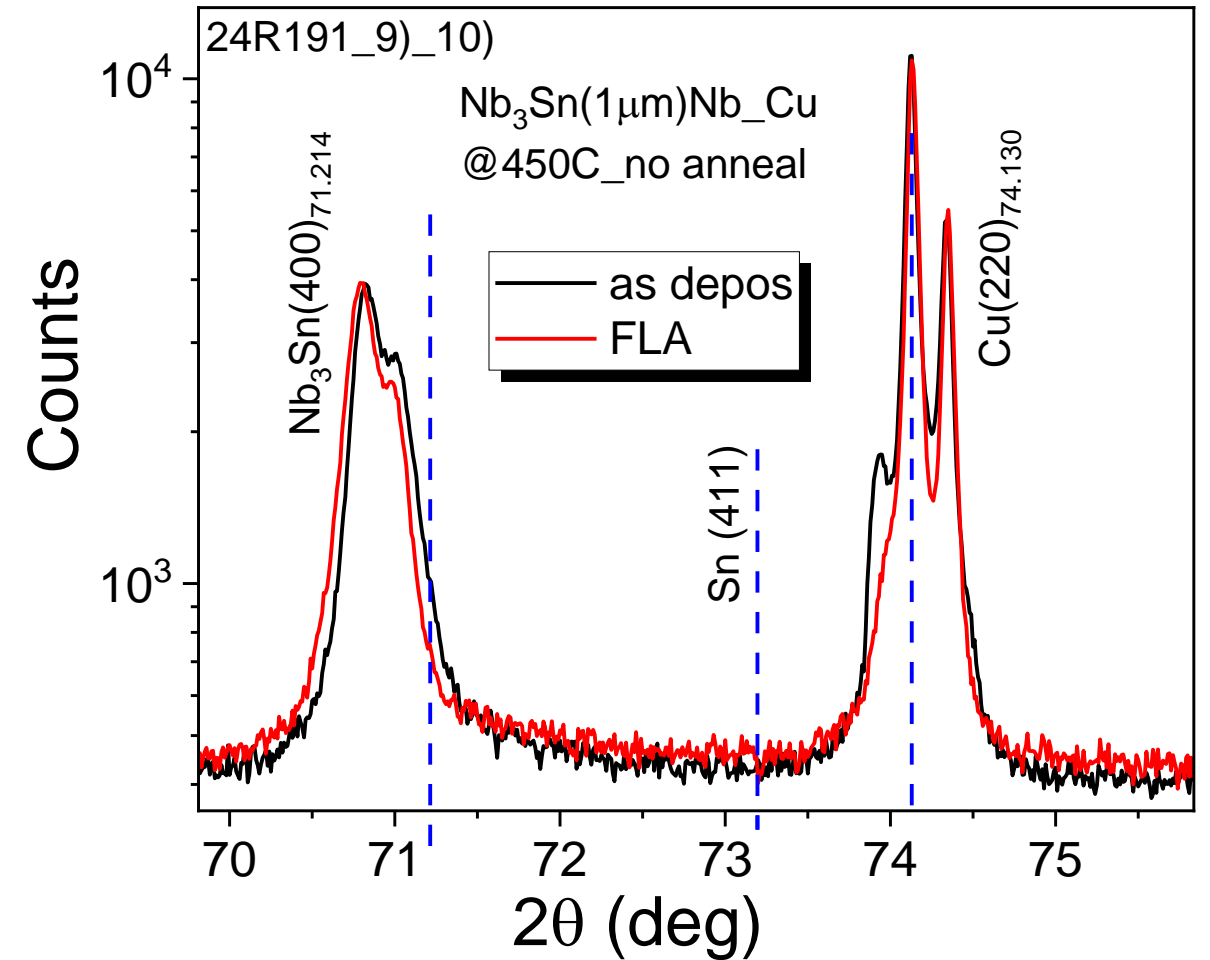
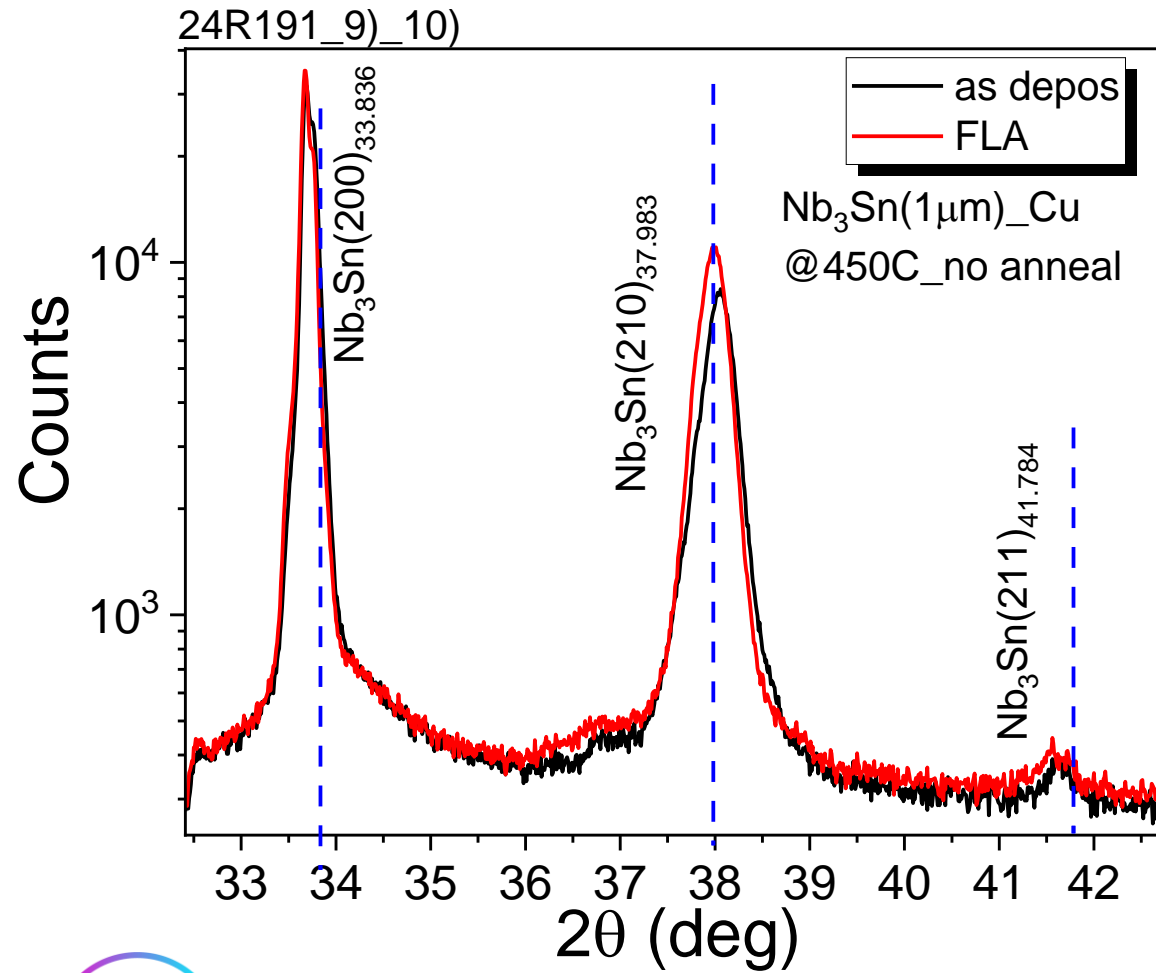




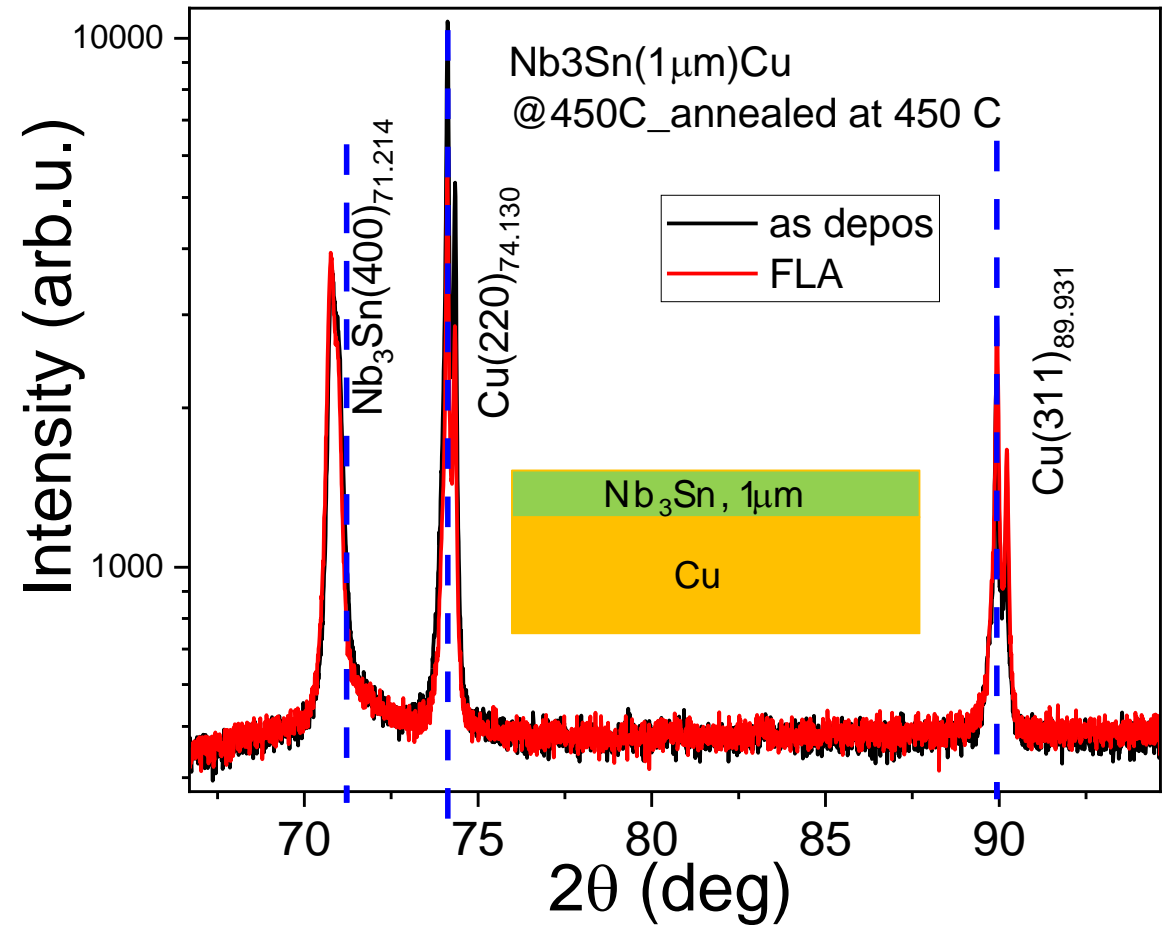
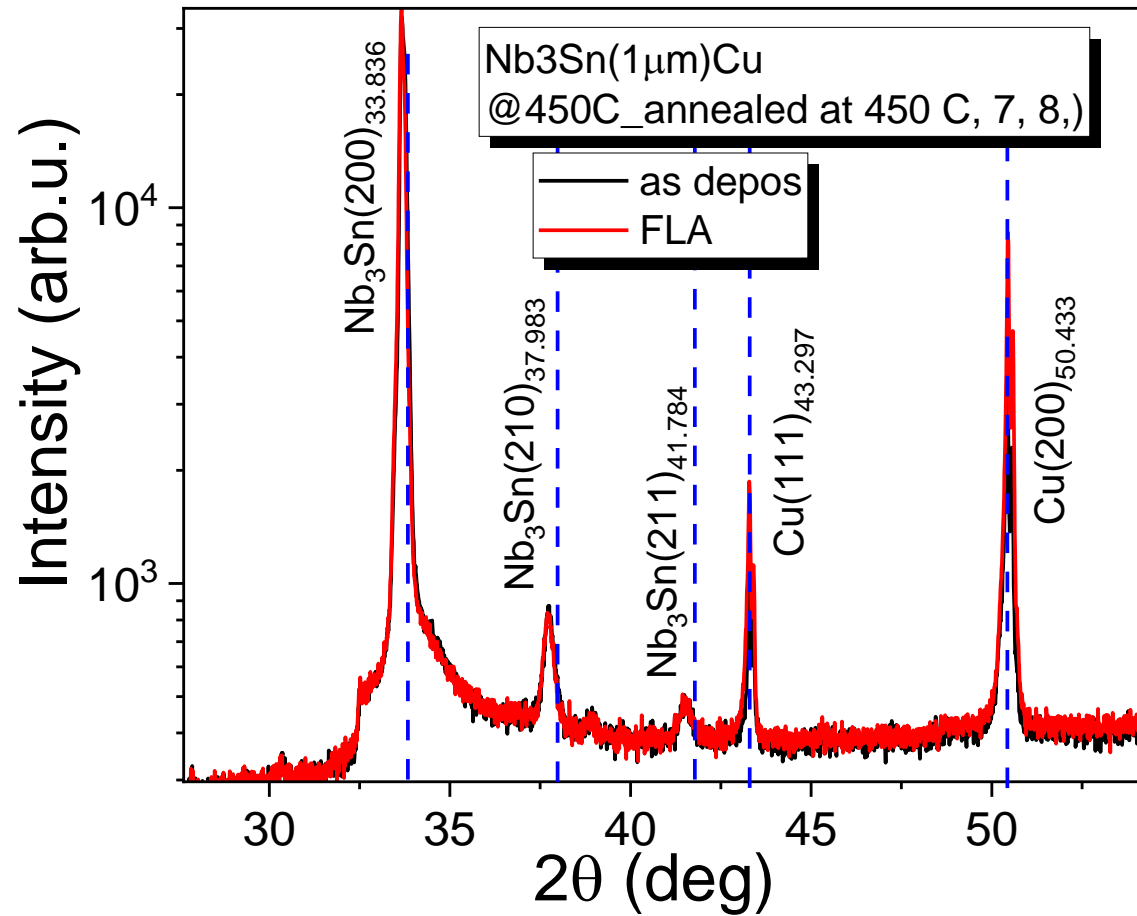
Rutherford Backscattering spectrometry



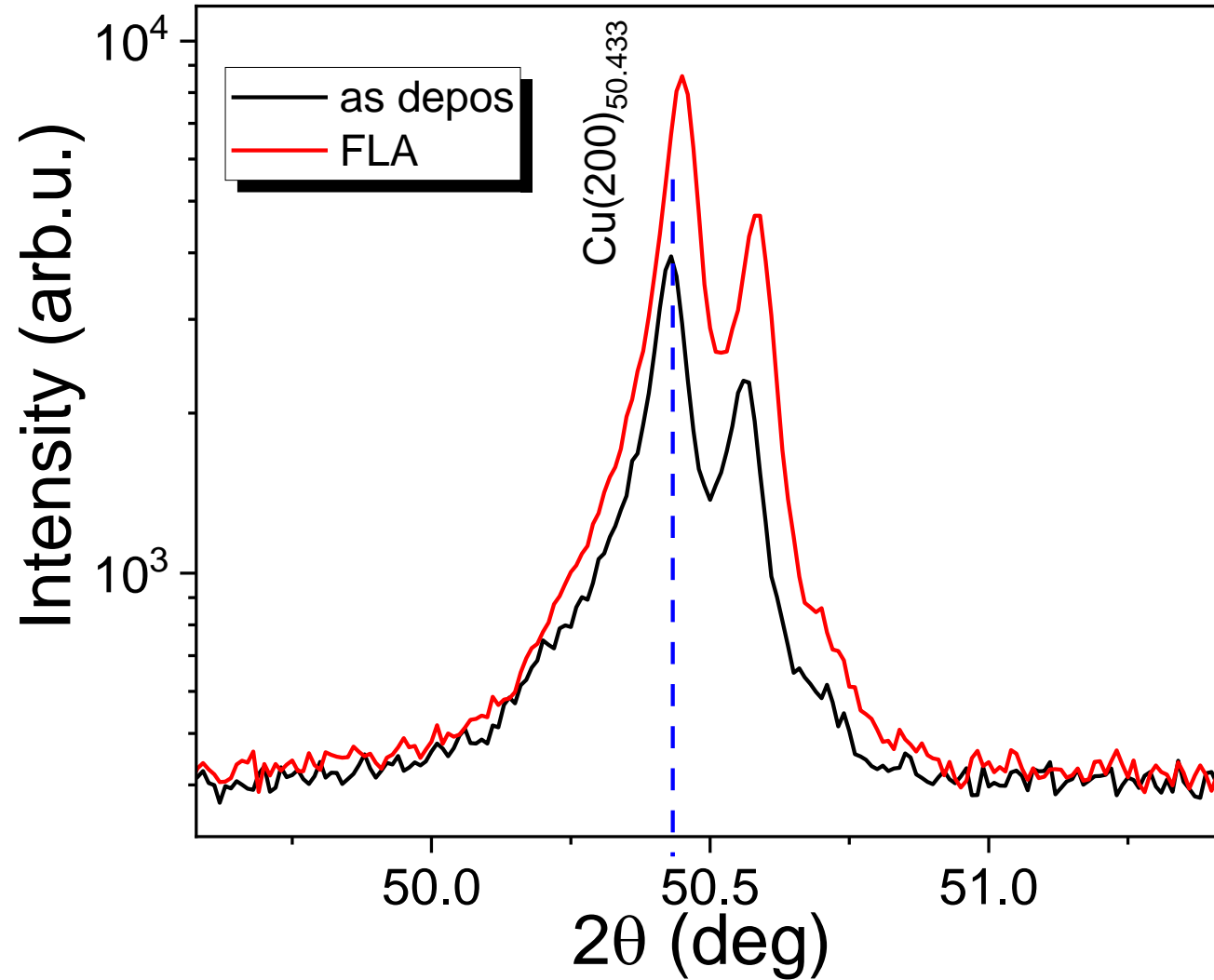
XRD: Nb₃Sn on Cu, @450°C



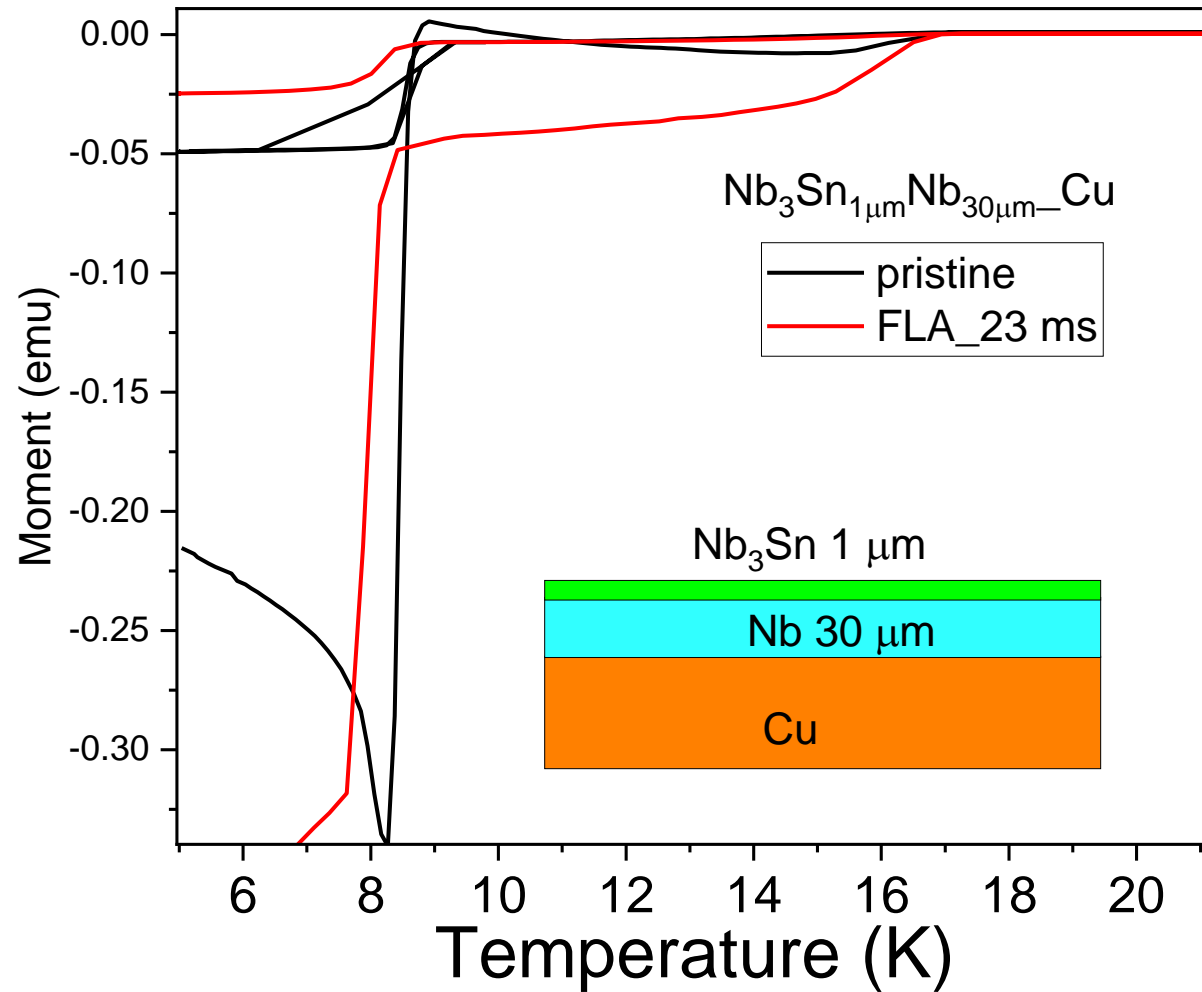
XRD: Nb₃Sn on Cu, @450°C+annealing



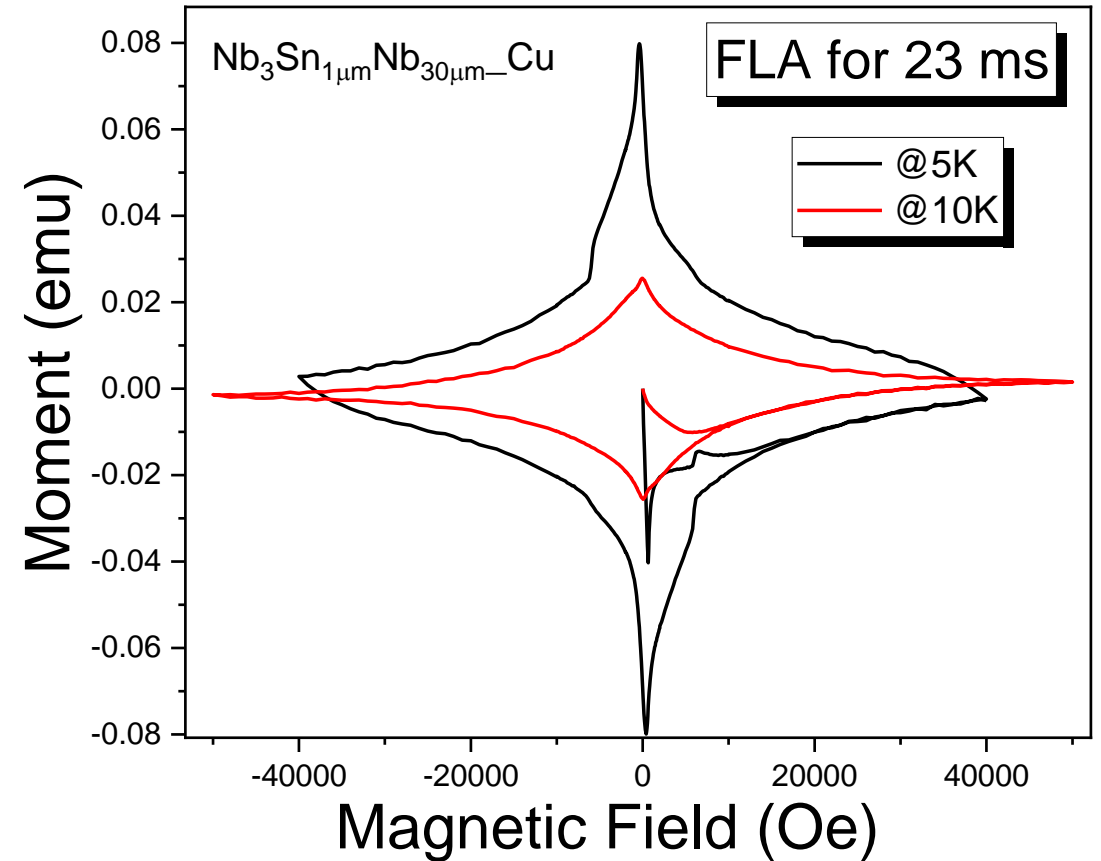
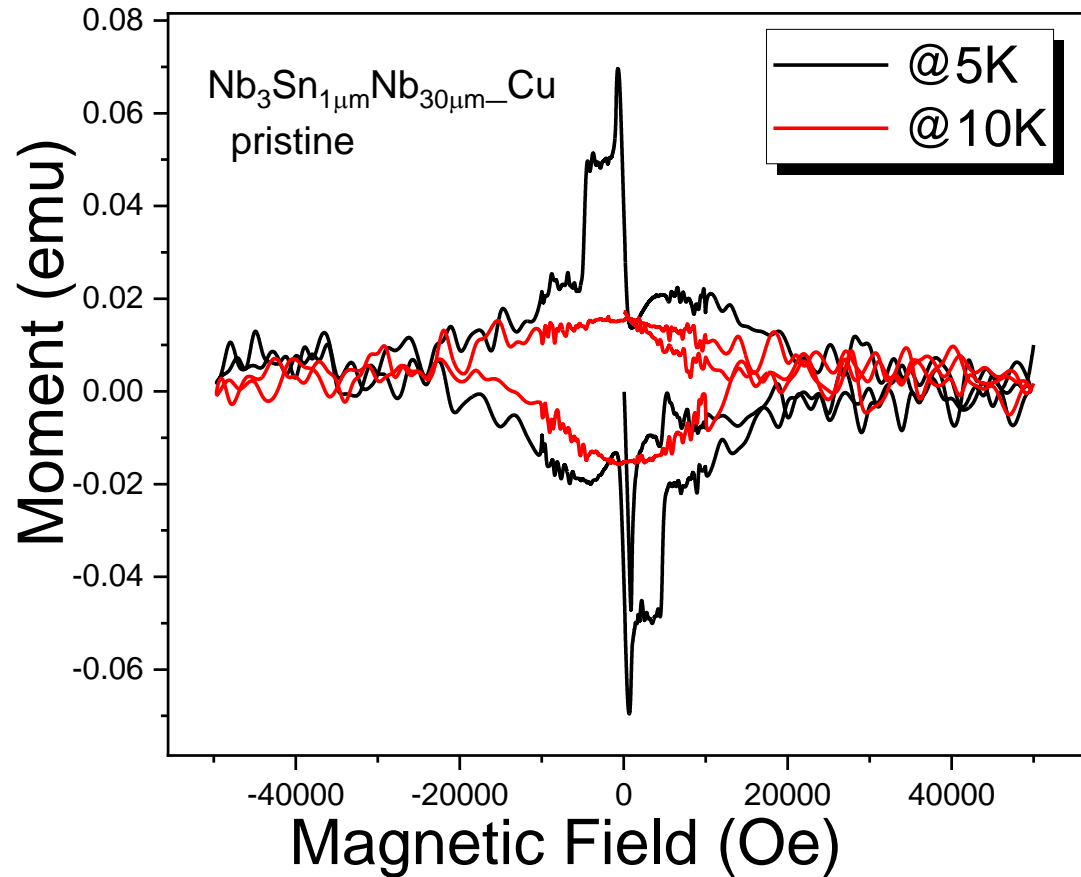
XRD: influence of FLA on Cu-substrate



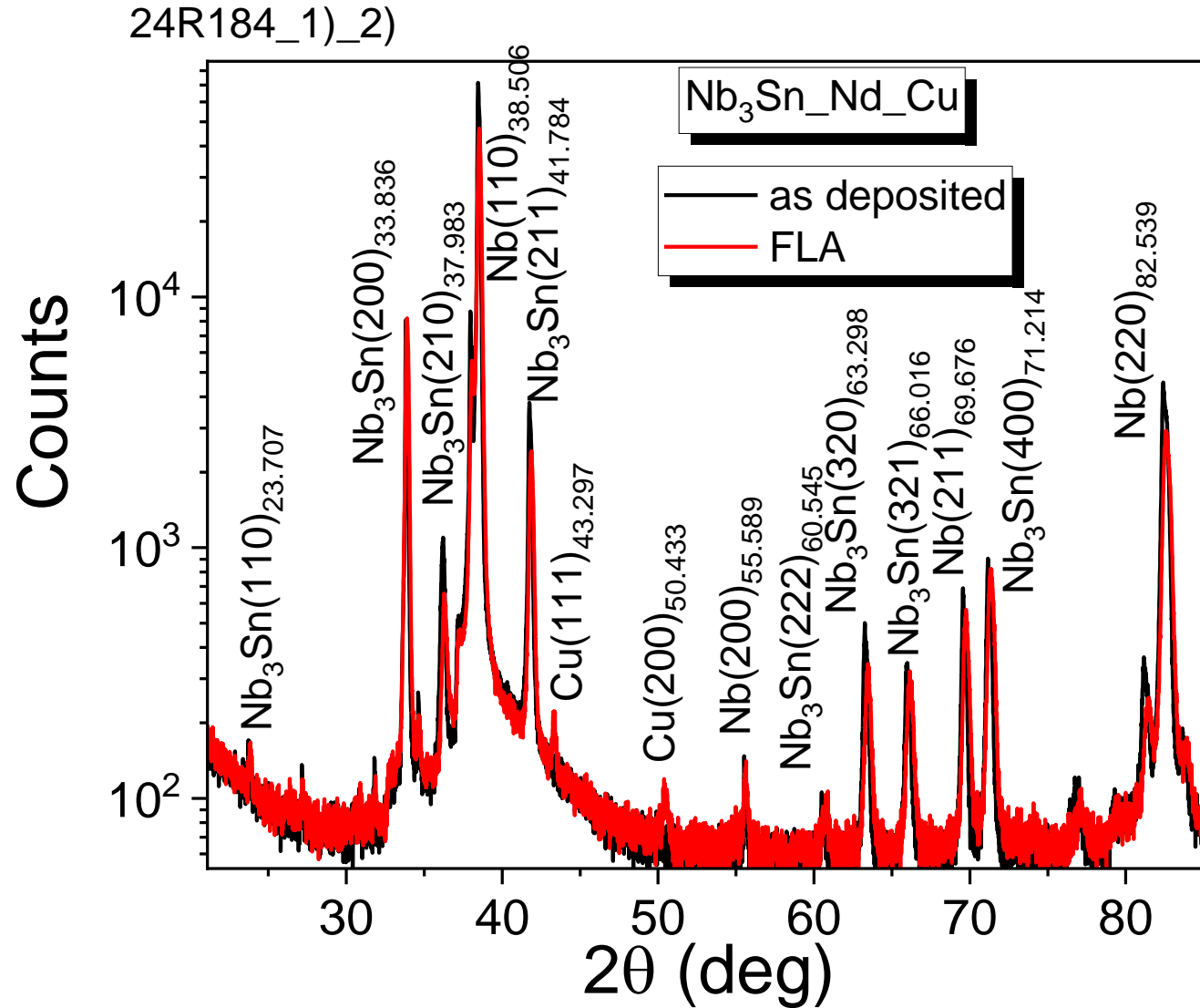
SQUID: Nb₃Sn on Cu, @650°C



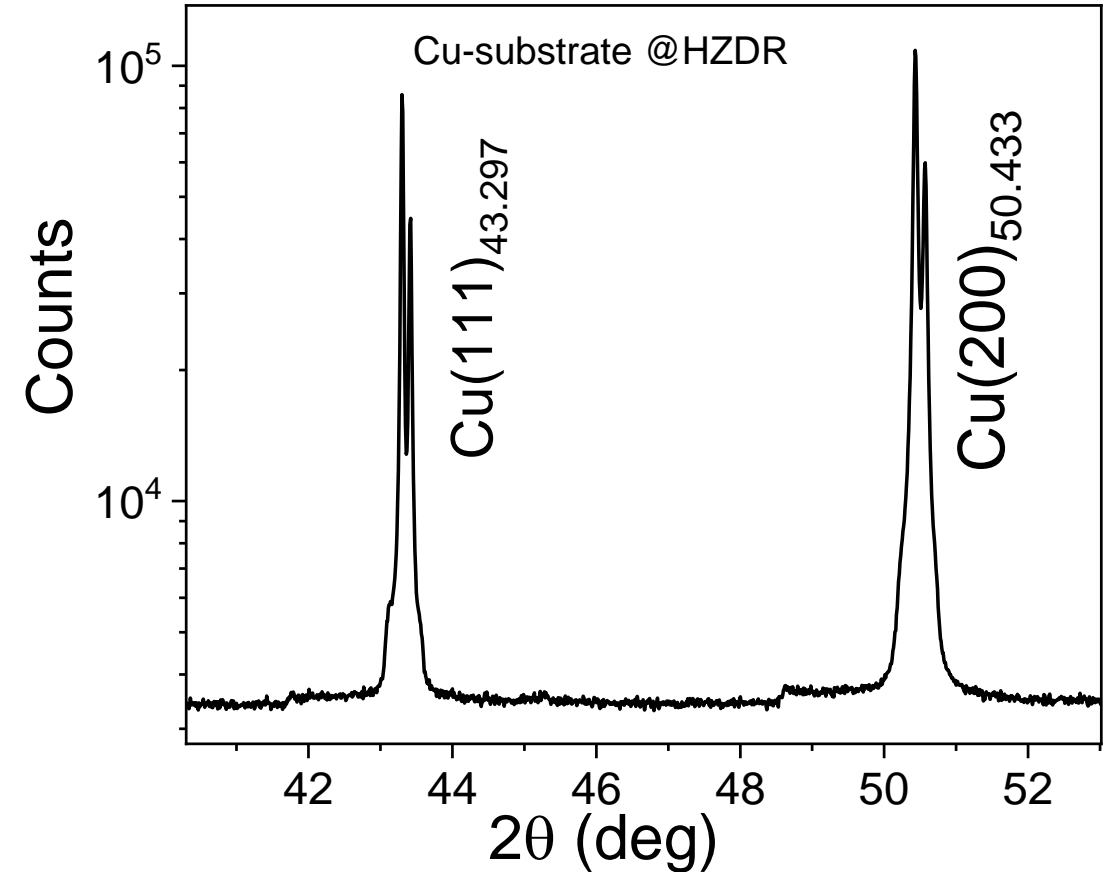
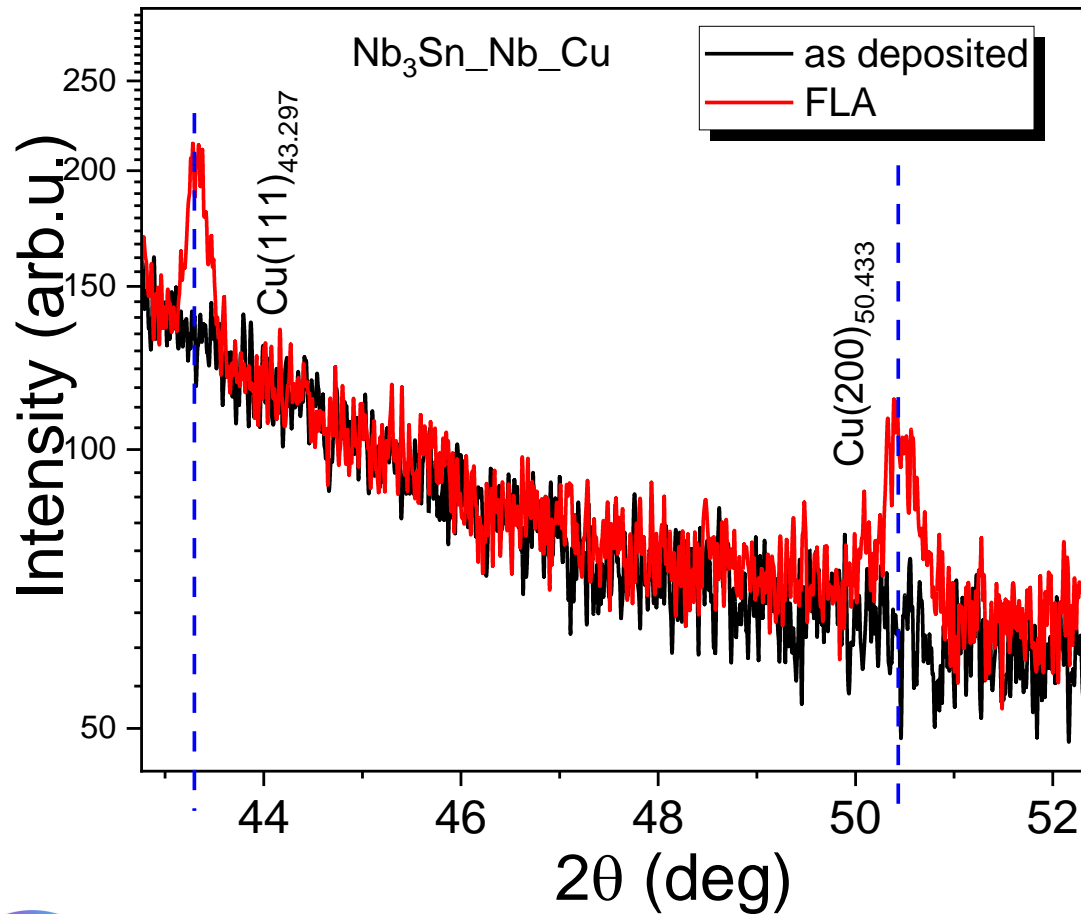
SQUID: Nb₃Sn on Cu, @650°C



XRD: Nb₃Sn on Cu, @650°C

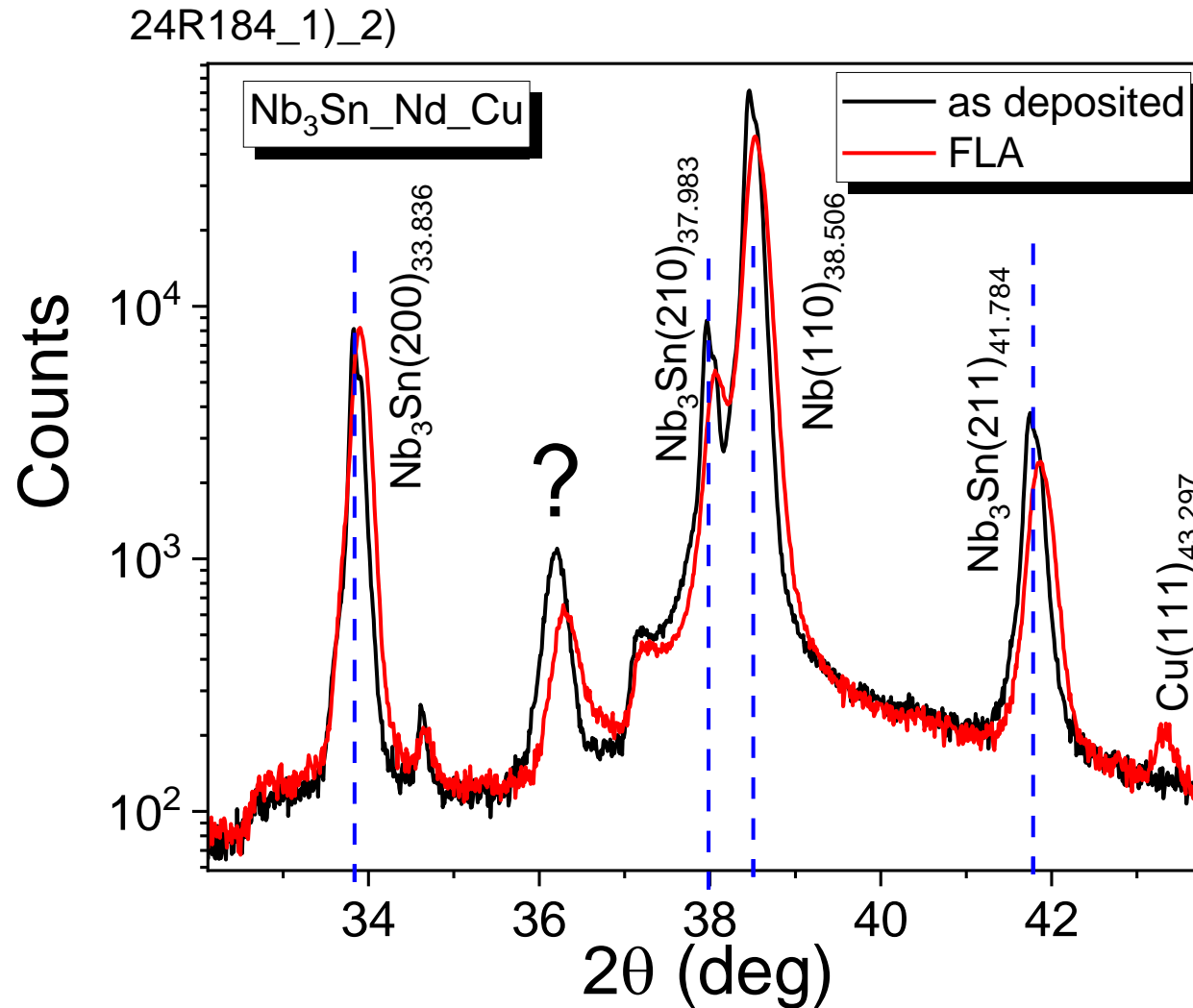


XRD: Nb₃Sn on Cu, @650°C - Substrate

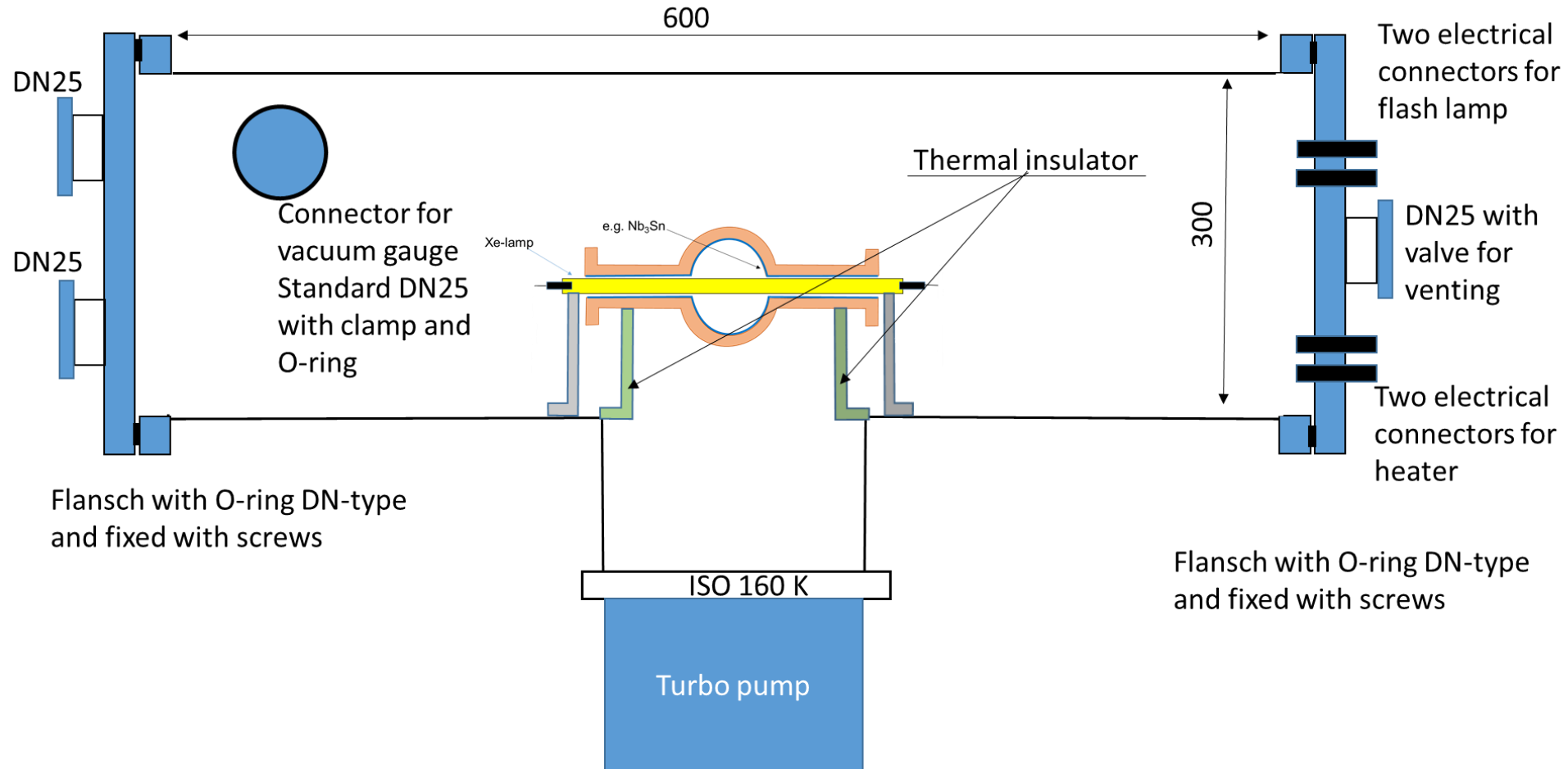


Reference Cu-substrate

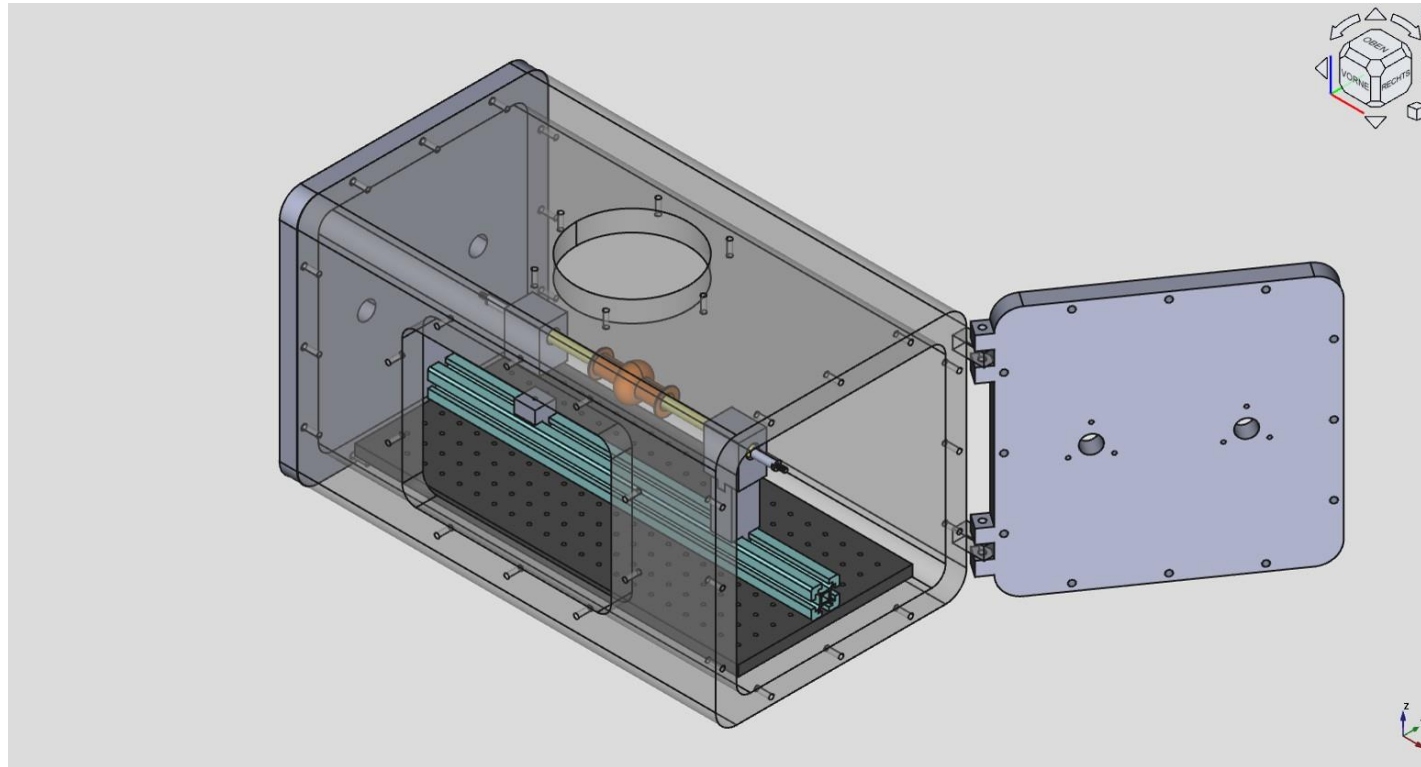
XRD: Nb₃Sn on Cu, @650°C



FLA system for 6 GHz cavity annealing



FLA system for 6 GHz cavity annealing



Chamber is ordered but the delivery is delayed due to the problem with components. Delivery is planned on the 2nd week of May.

Conclusions:

- Samples grown at 450°C are tensile strained or contain less Sn
- The critical temperature is below 10K
- FLA improves the layer crystallinity but does not affect T_C

- Samples grown at 650°C have T_C about 16.5 K
- Layers are relaxed and stoichiometric
- FLA improves the crystallinity of the Nb₃Sn and the substrate

iFAST

Thank you



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