

TOPIC 2: SURFACE ANALYSIS

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In this group, we will discuss how surface studies can help us to find out the physical origin of limitations inside cavities (field emission, Q-slope, quench). For each phenomena or each proposed model we should try to know what can be observable/measured, and what technique manage to approach that, keeping in mind the interpretation limitations of each technique.

We can separate those techniques into several topics:

1. Classic basic tools: e.g. SIMS, XPS, AUGER, X-Ray techniques...other profiling techniques
2. Extension of these techniques to high level precision: e.g. use of synchrotron sources, time of flight analysis etc.
3. Surface topography: at atomic resolution STM, AFM... 3DAP and at larger scale: profilometry, replicas...
4. Dedicated techniques for RF superconductivity: magnetic measurements, RRR, mean free path l , field emission.
5. Emerging techniques: 3DAP, D measurement by photoemission

Possible 10 minute talks:

- D. Seidman (Northwestern University): 3DAP (3D-atomic probe Tomography) (topic 3 or topic 5)
- G.M. Rao (JLab) : Dynamic SIMS (topic 2) and XPS (topic 1)
- S. Berry (Saclay) : Replicas and quench modeling (topic 3)

And possibly:

- M. Delheussy (MPI-Stuttgart/Saclay): X-Ray technics: diffusion, reflectivity, CTR (topic 1 or topic 2)
- C. Antoine (Saclay, collaboration with Tokyo University): D measurement by photoemission (topic 5)
- J. Kauffman (Cornell)
- Someone from DESY (topic 4)