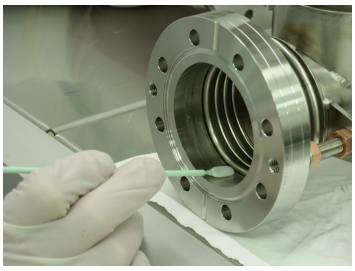
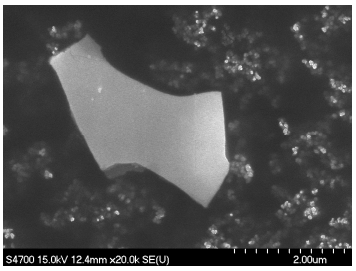
RG 18dec15
(Rev. 21jan16)

Mini-Workshop on beam line field emitter particulates in CEBAF SRF linacs

First Announcement, December 18, 2015





Goal: Evaluate field emission impact to operation of CEBAF SRF linacs. Identify the root cause of particulate field emitters in operational SRF cavities, with a focus on the particulates originated from the UHV beam line components. Develop solutions for "particulate free" beam lines for future SRF linacs as well as mitigations against accumulated field emitter particulates for operational SRF linacs.

Topics:

- Observations and experiences with beam line particulates and correlation with field emission.
- Sources of particulates in UHV beam lines.
- Roles of condensed residual gases.
- Mechanisms of particulate transportation in UHV beam lines.
- UHV beam line component design for lowest particulate generation.
- UHV beam line component cleaning, handling, assembly and operation procedure for lowest particulate generation.
- Mitigation against field emitter particulate in operational SRF linacs.
- Techniques for removal of accumulated field emission particulates.
- UHV beam line particulate detection technique.
- Fast detectors for *in operando* monitoring of field emission turn on.

Date: February 29, 2016

Venue: Test Lab Large Conference Room

Program committee:
Rongli Geng (Chair)
Arne Freyberger
Geoff Krafft
Tim Michalski
Tony Reilly

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Agenda

9:00 - 9:15 AM	Aim of the workshop	Rongli Geng
9:15 - 9:30 AM	Technical and economical motivation	Arne Freyberger
9:30 - 10:00 AM	FE experiences with C100 module operation	Rama Bachimanchi
10:00 - 10:30 AM	Evolution of FE characteristics of selected modules	Mike Drury
10:30 AM - noon	Review of current practices in cavity string assembly, cryomodule installation, warm girder UHV components installation/maitenance. Give special attention to designs/procedures aimed for minimizing particulate generation/transportation.	
	• Cavity string assembly (15')	Kurt Macha
	• Cryomodule installation in CEBAF tunnel (15')	John Fischer
	• Warm girder UHV components (30')	Anthony DiPette
	• Beam line ion pumps and gate valves (30')	John Hackman
Noon – 1:00 PM	Lunch (on your own)	
1:00 PM – 3:00 PM	Panel discussion (Moderator: Rongli Geng) Panelist: Anthony Dipette, John Fischer, John Hackman, Kurt Macha	
3:00 PM – 3:30 PM	Brainstorm action list (Moderators: Tim Michalski, Tony Reilly)	
	• Near term actionable items to slow down FE particulate generation • Particulate-free UHV component design for SRF linacs	
3:30 PM – 3:45 PM	Brainstorm action list (Moderator: Geoff Krafft)	
	• Future on-line and off-line testing • Future studies on particulate transportation e-beams • Long term implementable mitigations	
3:45 PM – 4:00 PM	Closeout	Rongli Geng
4:00 PM	Adjourn	