



# Cornell MLC update

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TTC High-Q Working Group Meeting 12Nov2015



# MLC status and plan

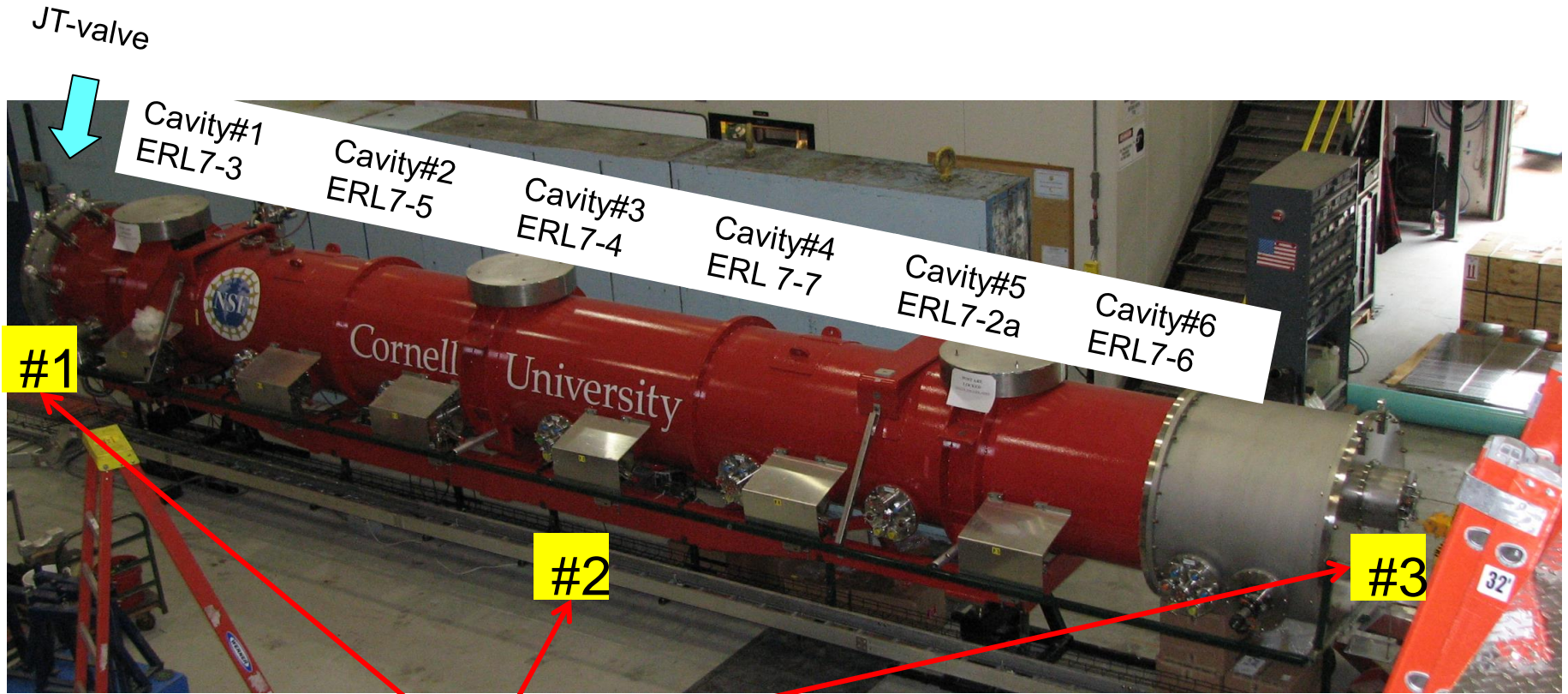


2015	Status
September	<ul style="list-style-type: none"><li>Initial cooldown completed.</li></ul>
October	<ul style="list-style-type: none"><li>Cavity tests post initial cool completed (1<sup>st</sup> run).</li><li>1<sup>st</sup> thermal cycle w/ fast cool done.</li></ul>
November	<ul style="list-style-type: none"><li>Cavity tests post 1<sup>st</sup> thermal cycle completed (2<sup>nd</sup> run).</li><li>2<sup>nd</sup> thermal cycle w/ slow cool is ongoing.</li><li>Cavity test post 2<sup>nd</sup> thermal cycle will start (3<sup>rd</sup> run).</li></ul>
December	<ul style="list-style-type: none"><li>MLC cavity test will be completed by end of December.</li></ul>





# Cavity string and Rad monitor notes



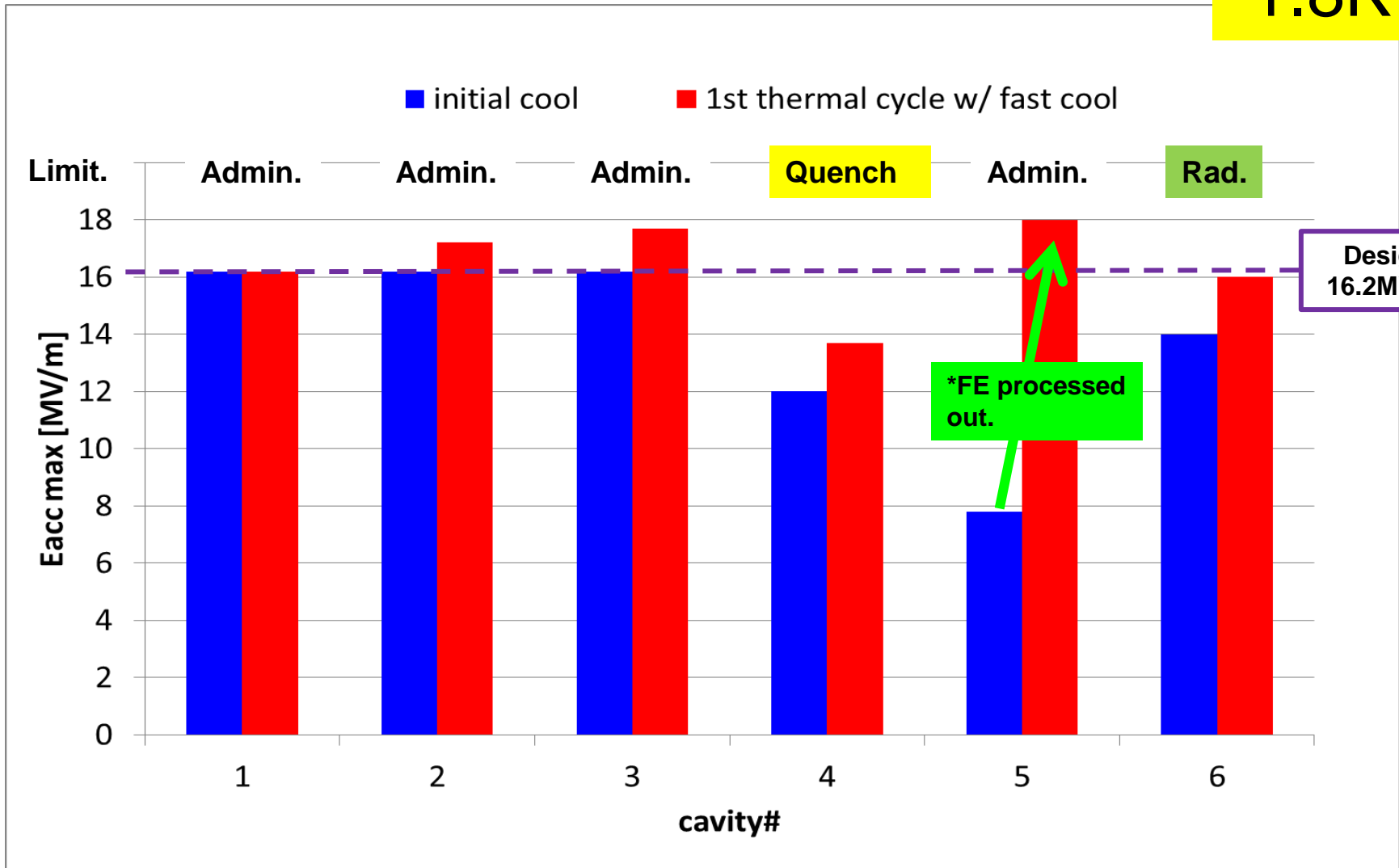
Rad monitor #1, #2, and #3 on MLC.  
#1 & #3 are put on both end,  
#2 is put on the coupler of measured cavity.





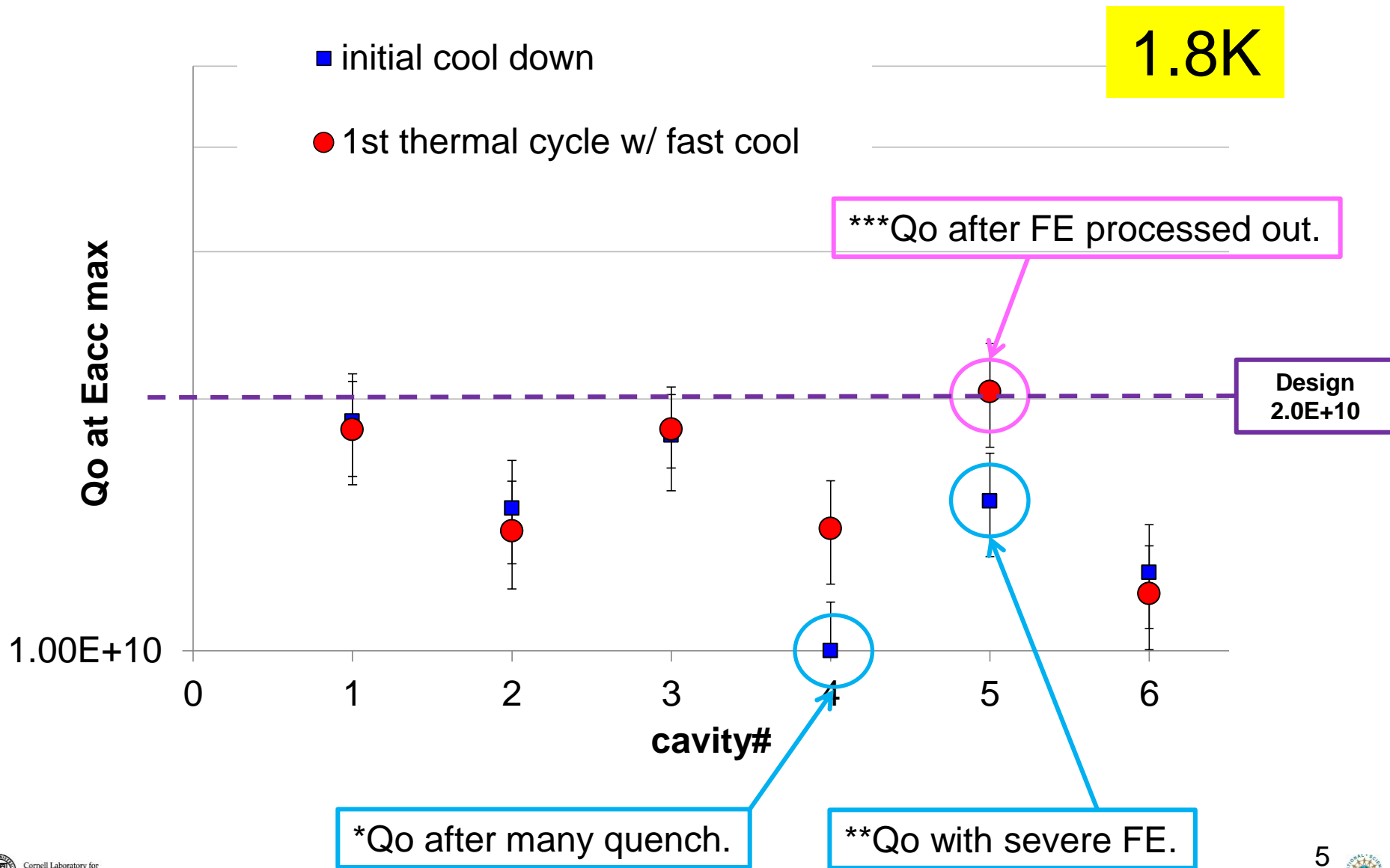
# Preliminary results of cavity gradient in MLC

1.8K





# Preliminary results of cavity Qo in MLC





# MLC status, post 1<sup>st</sup> thermal cycle, 1.8K

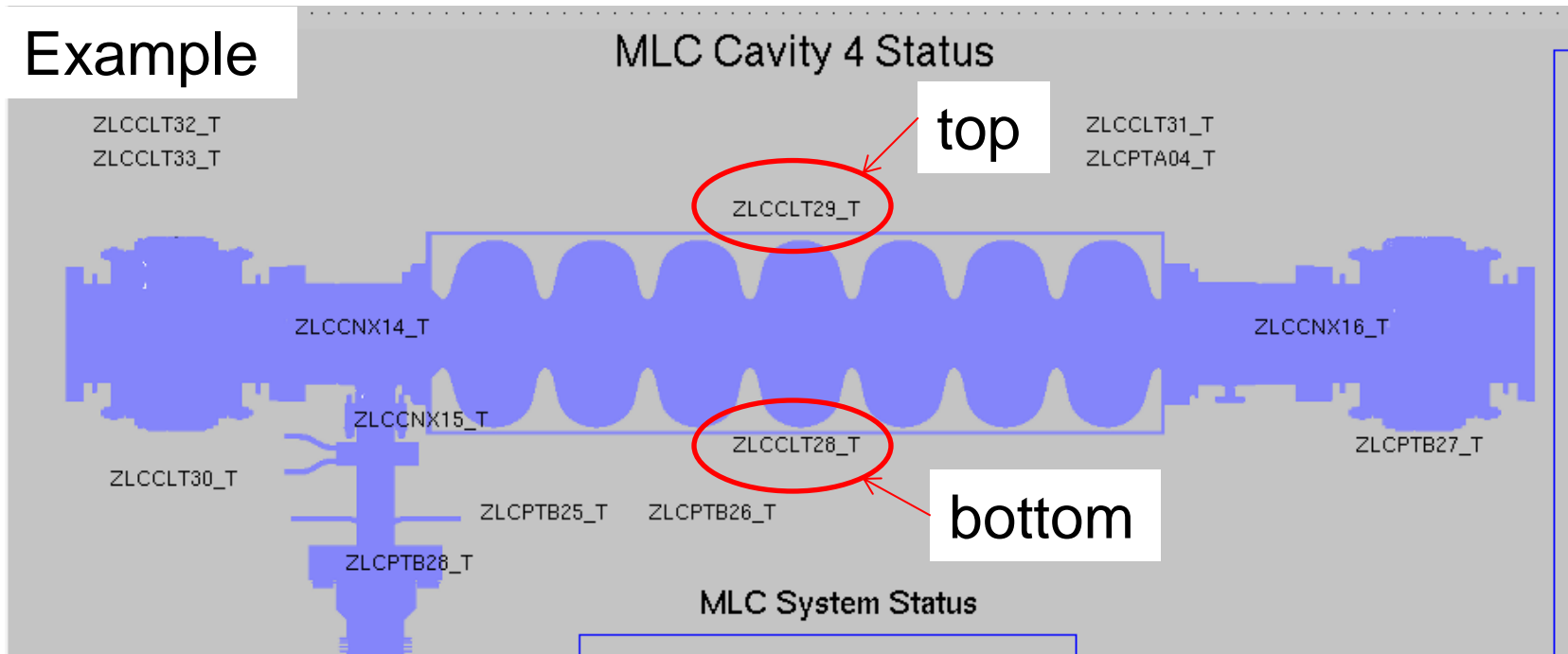


Cavity#	Eacc max [MV/m]	Qo at Eacc max	Limitation
Cavity#1	16.2	1.84E+10	Admin. Limit.
Cavity#2	17.2	1.39E+10	Admin. Limit. (Cryo)
Cavity#3	17.7	1.84E+10	Admin. Limit. (Cryo)
Cavity#4	13.7	1.40E+10	Quench, NO detectable rad
Cavity#5	18	2.04E+10	Admin. Limit.
Cavity#6	16	1.17E+10*	Rad safety, *Qo at 14MV/m. NO Qo meas. at 16MV/m.
Design	16.2	2.0e10	1.8K





## Example

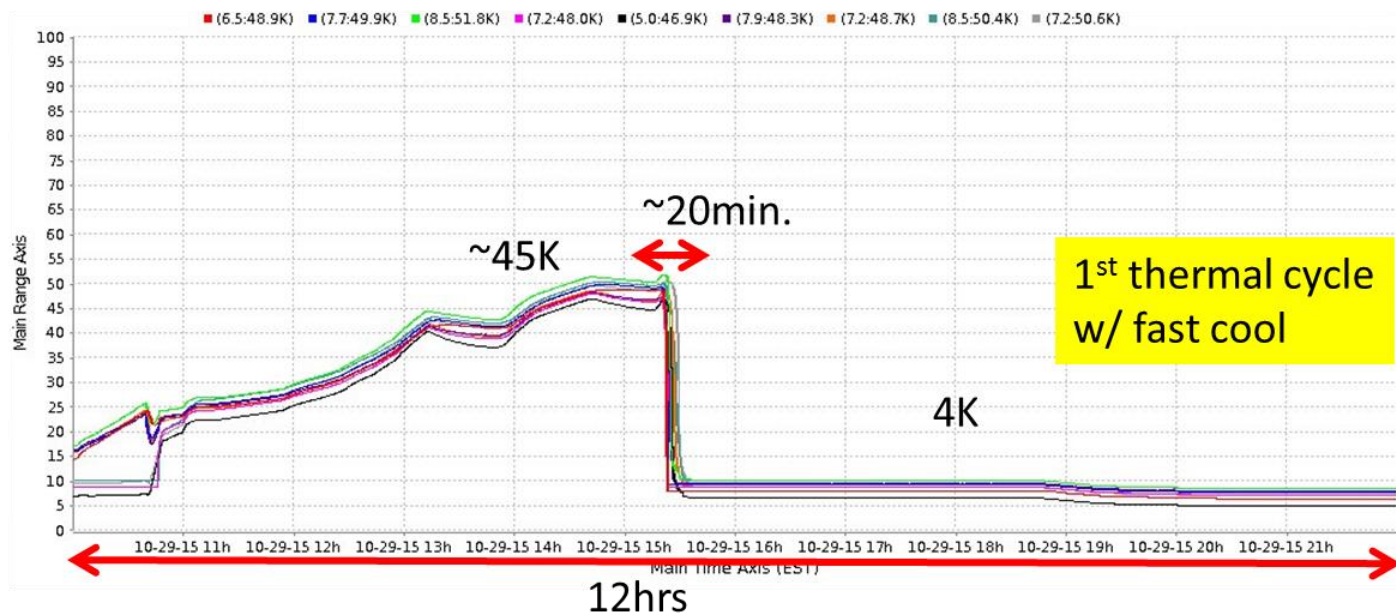
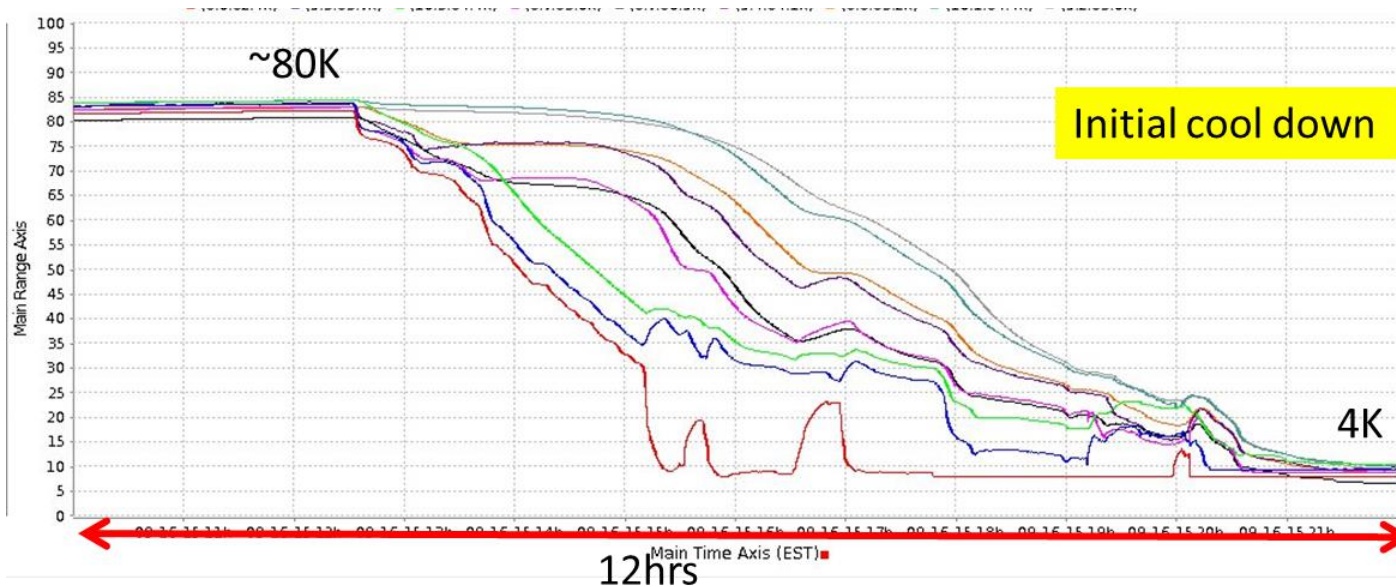


Preliminary analysis was done against temp. sensors on top and bottom of Helium tank

Return Heater Temperature MLC\_Return\_H1  
2K Heater Power ZLC2KH01\_2K\_  
1.8K 2-Phase Helium Flow ZLCFIE01\_He\_I



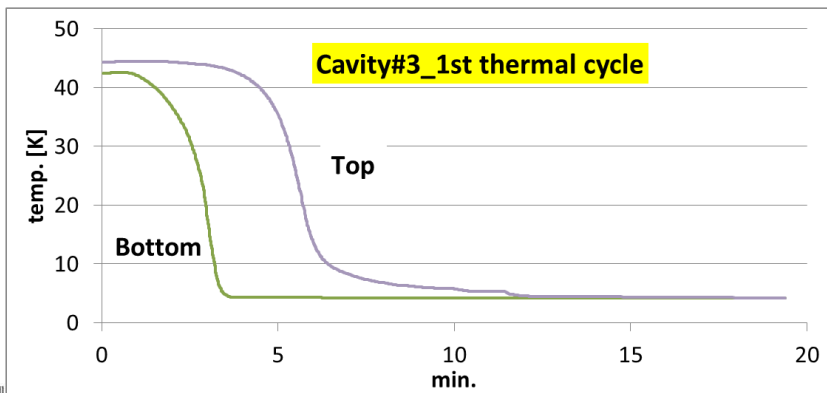
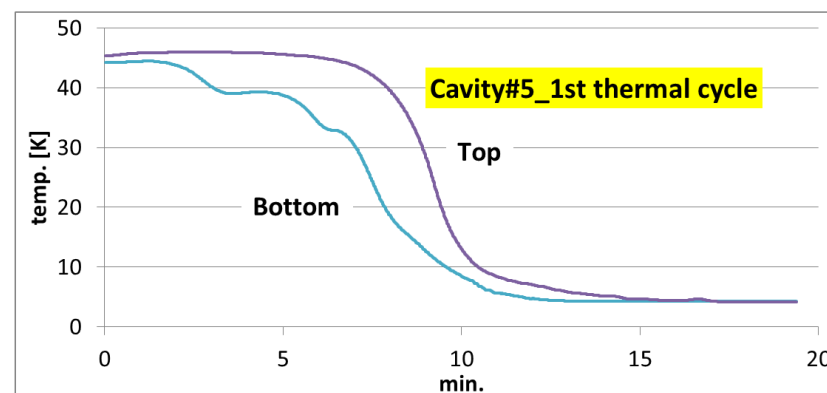
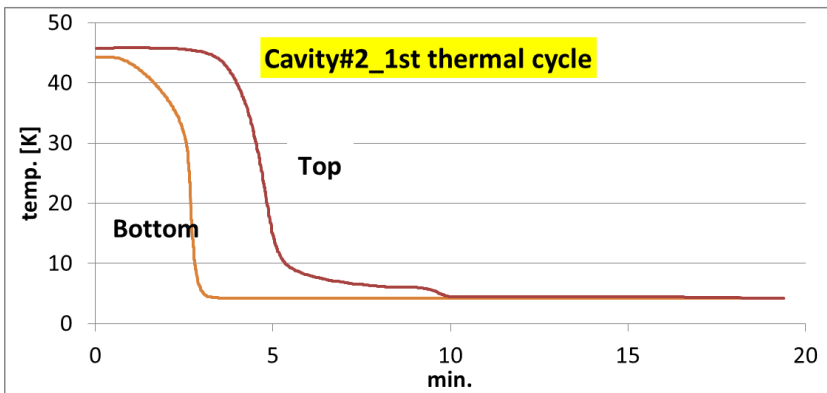
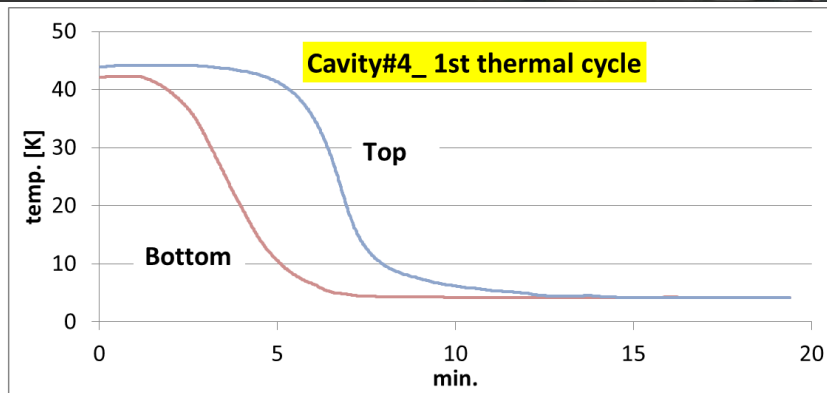
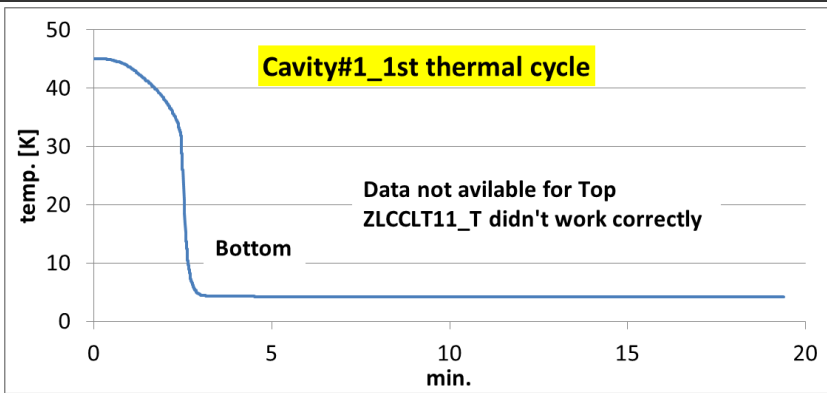
# Temp. profile during cool down, preliminary







# Temp. profile during fast cool down, preliminary



Data not available for Cavity#6  
ZLCCLT40&41 didn't work correctly.





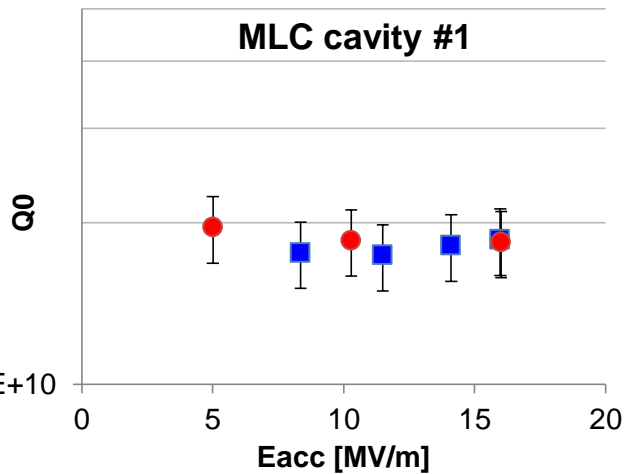
# Preliminary results of Q(E) at 1.8K



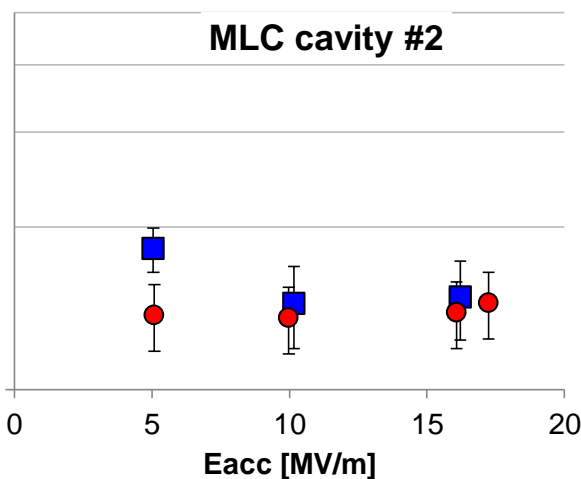
■ initial cool down

● 1st thermal cycle w/ fast cool

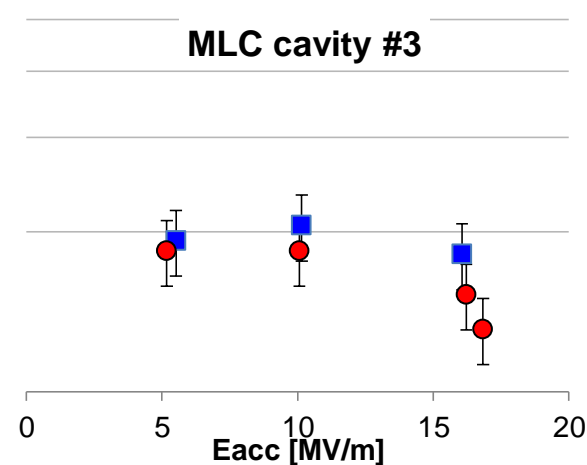
### MLC cavity #1



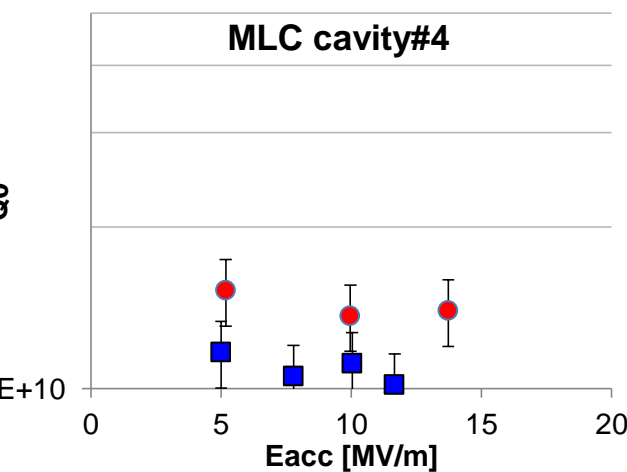
### MLC cavity #2



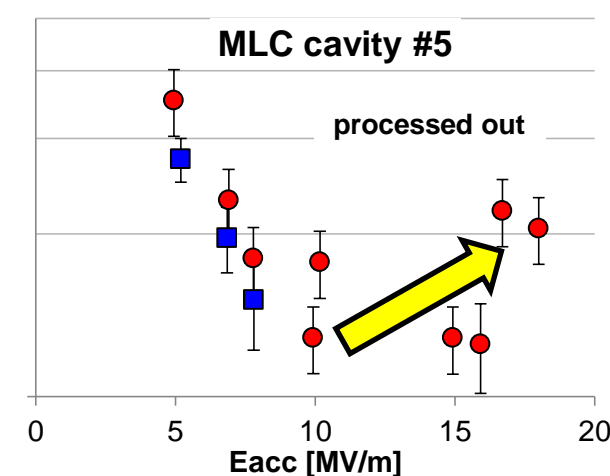
### MLC cavity #3



### MLC cavity #4



### MLC cavity #5



### MLC cavity #6

