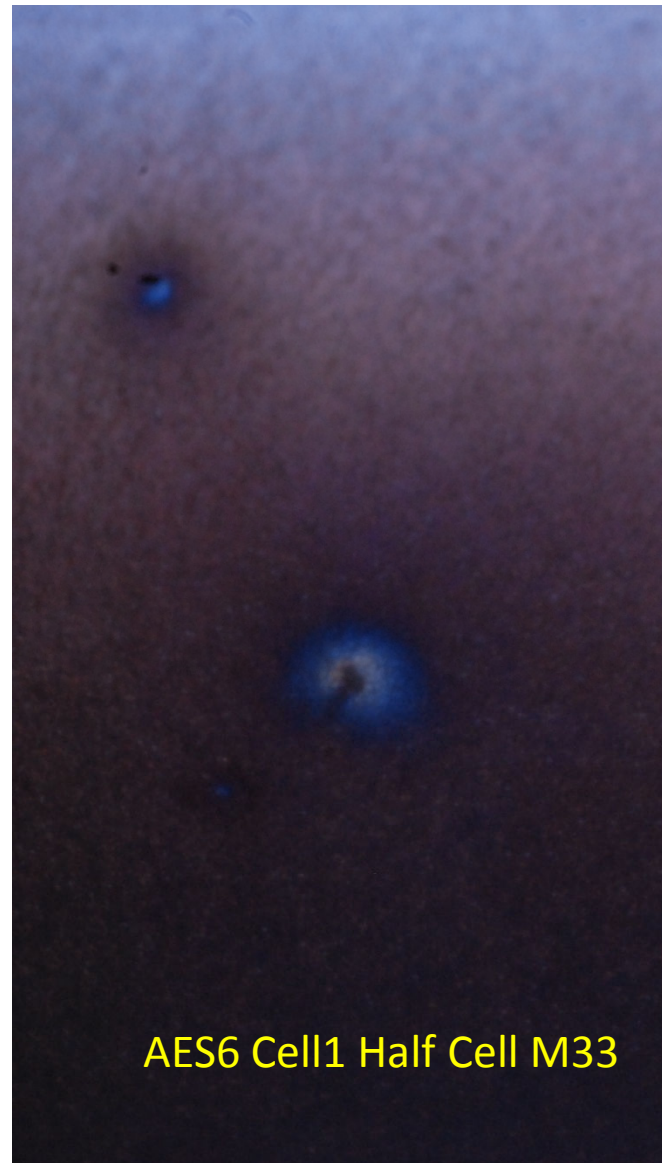
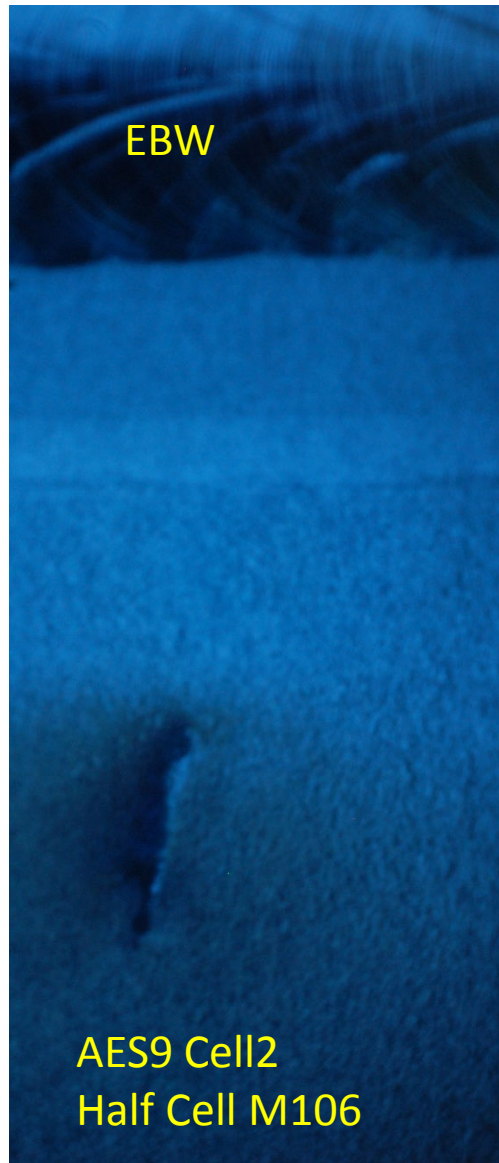
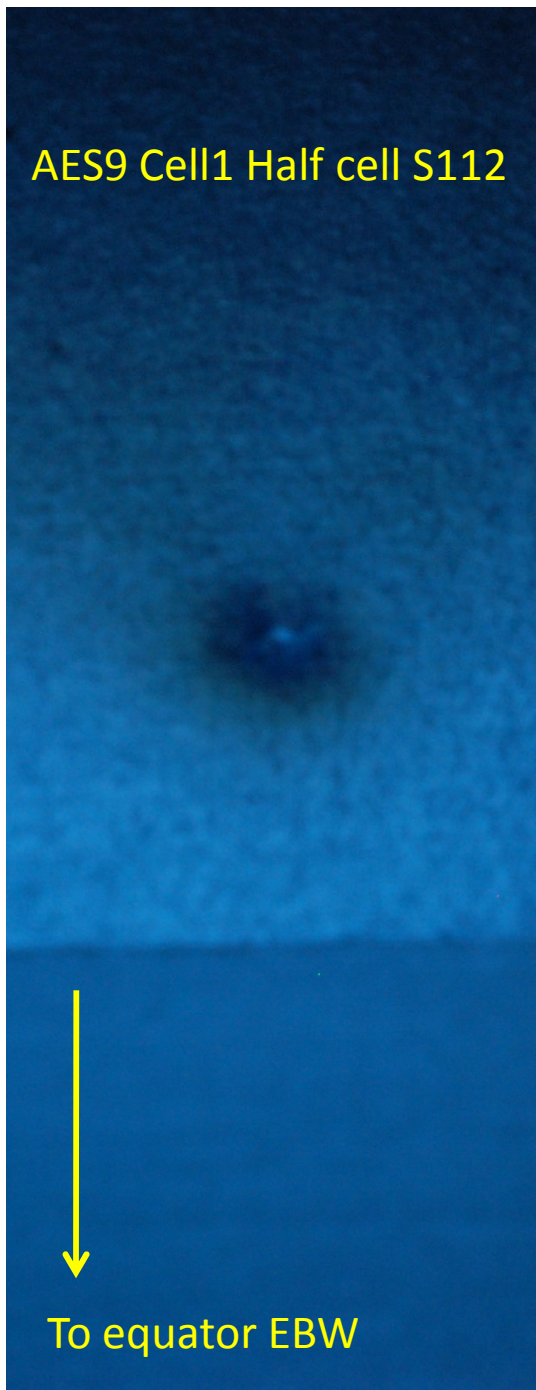


AES9 reached 34 MV/m at Q0 1E10
after first light EP

Rongli Geng
Jefferson Lab

25aug09

15th ILC cavity group meeting



Weld spatter within near equator weld

AES9 Cell3 Half Cell M24

Equator EBW

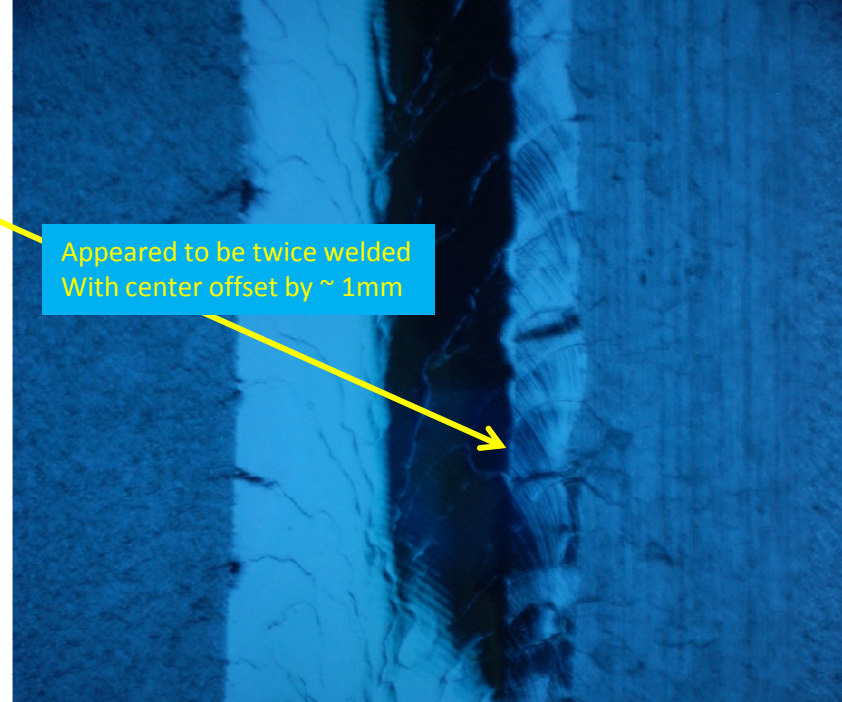
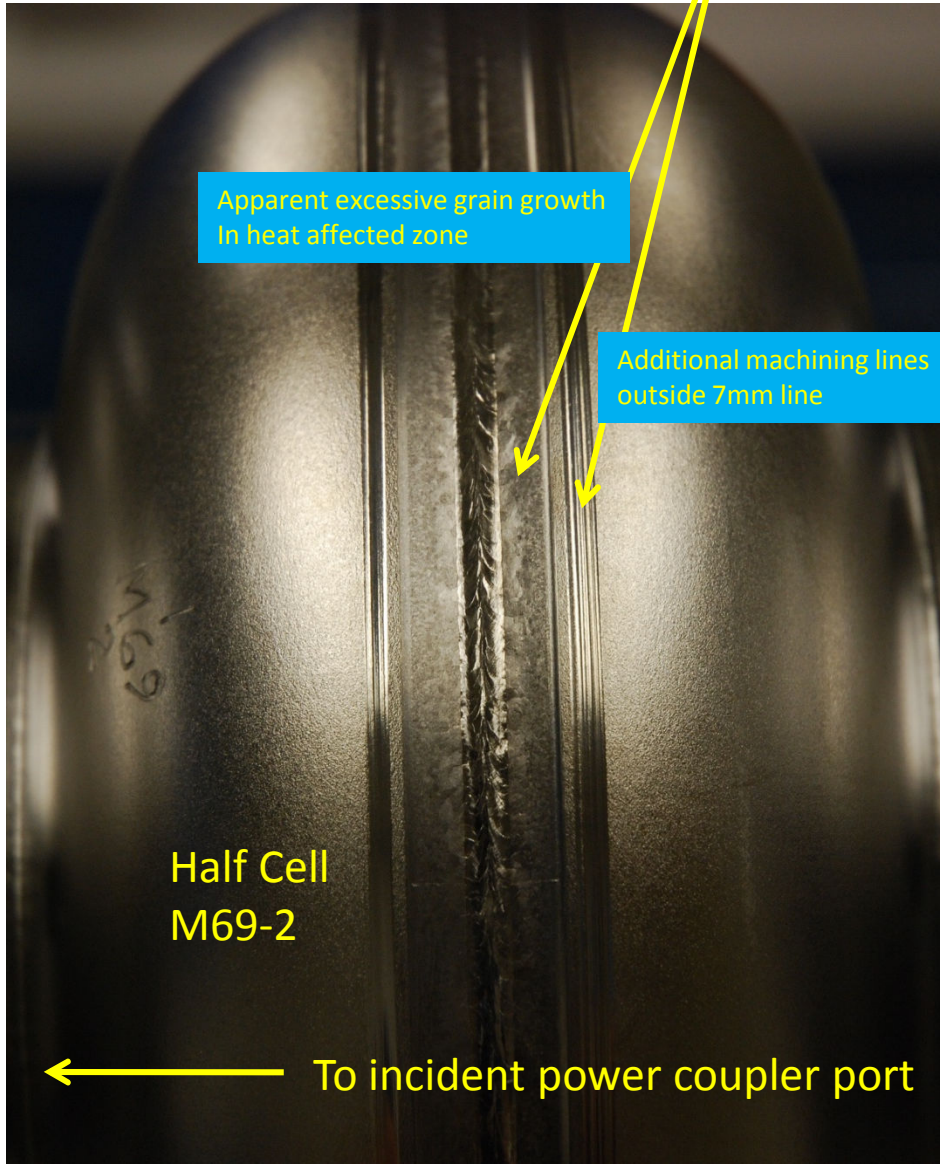


AES6 Cell5 Half Cell M74

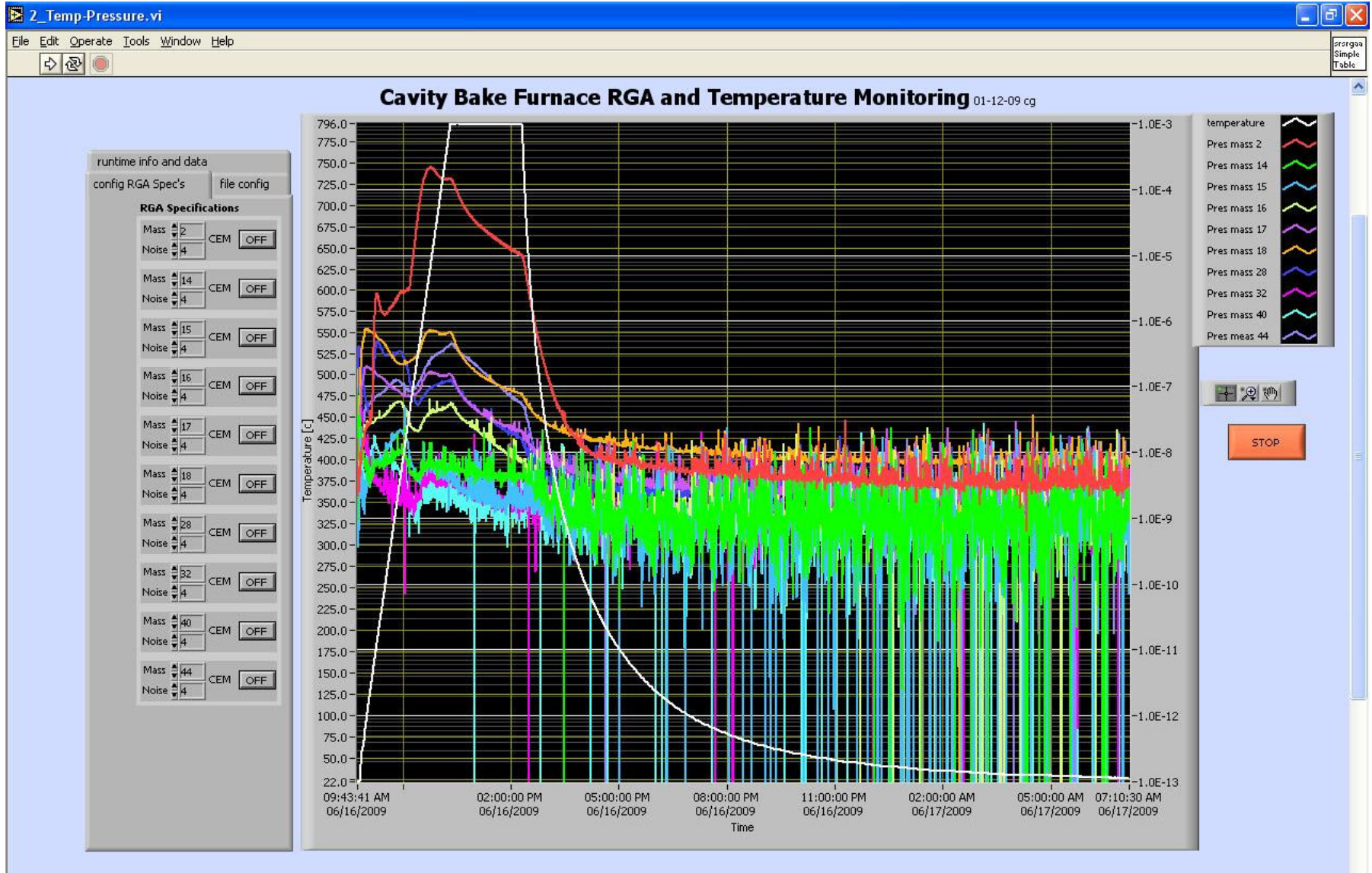
800um dia.



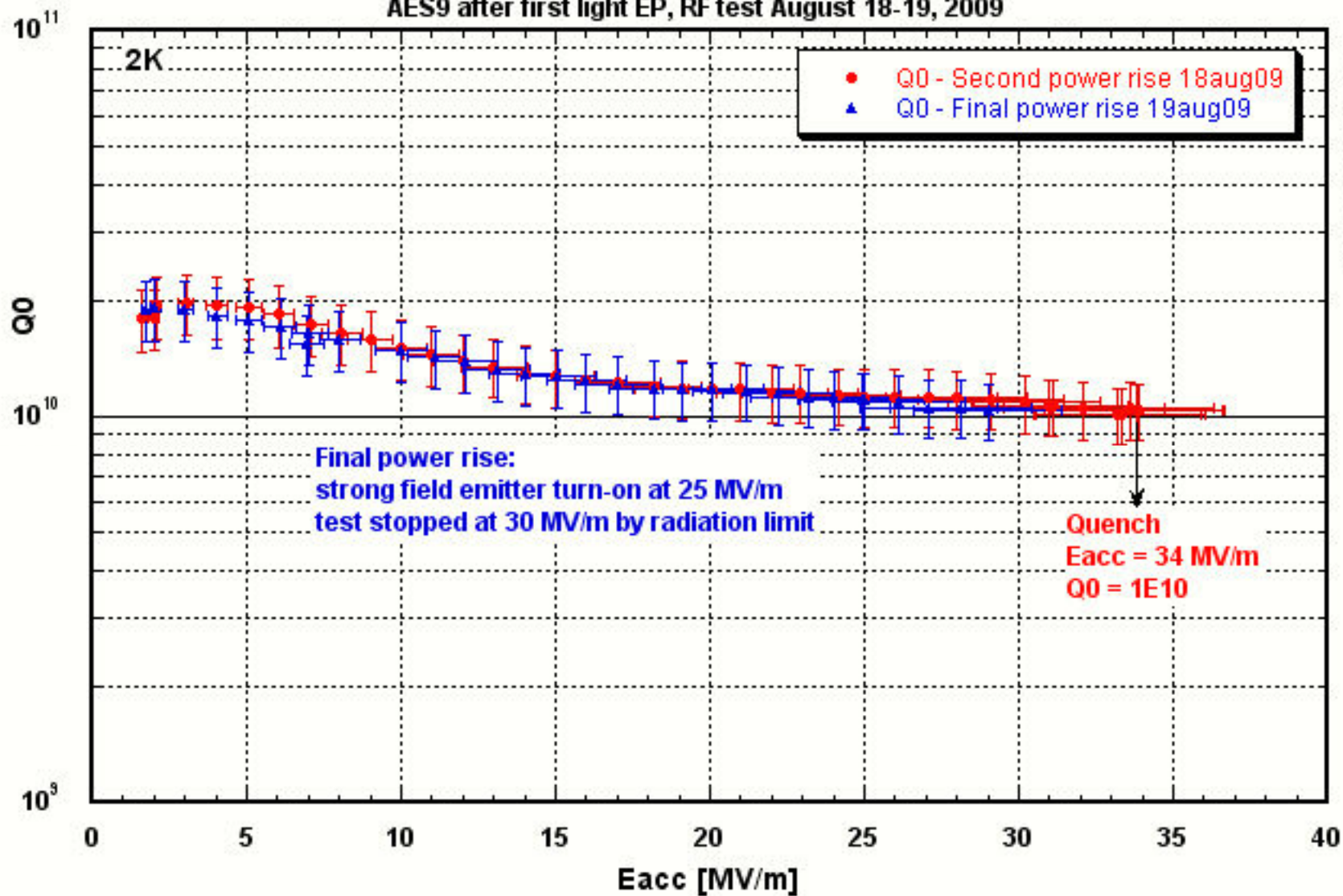
4th cell from incident power coupler port
Equator EBW looks different from outside & inside



Hydrogen out-gassing at 800C for 2 hours (instead of 600C 10hrs)



AES9 after first light EP, RF test August 18-19, 2009



AES9 pass-band mode measurements,
19aug09

gradient in MV/m

mode index	max. end cell grad.	Pt [Watt]	X-ray at max. Eacc [mR/h]
9	33.9		6000
8	33.3		10
7	31.3		5
6	32.4		20
5	31.6		100
4	23.7		1
3	18.8		0
2	15		1
1	6.4		40

Pi-mode gradient limited by end cells
End-cells also responsible for field emission
Other 7 cells (#2-#8) reached Hpk 153-179 mT
(equivalent to 36-42 MV/m)

cell#	max. cell grad.	8/9-Pi coeff.	8/9-Pi cell grad.	7/9-Pi coeff.	7/9-Pi cell grad.	6/9-Pi coeff	6/9-Pi cell grad.	5/9-Pi coeff	5/9-Pi cell grad.	4/9-Pi coeff.	4/9-Pi cell grad.	3/9-Pi coeff.	3/9-Pi cell grad.	2/9-Pi coeff	2/9-Pi cell grad.	1/9-Pi coeff.	1/9-Pi cell grad.
1	33.3	1	33.3	1	31.3	1	32.4	1	31.6	1	23.7	1	18.8	1	15	1	6.4
2	37.2	0.88	29.304	0.54	16.902	0	0	0.64	20.224	1.31	31.047	1.96	36.848	2.48	37.2	2.82	18.048
3	42.2	0.65	21.645	0.18	5.634	0.98	31.752	1.21	38.236	0.53	12.561	0.97	18.236	2.81	42.15	4.31	27.584
4	35.6	0.35	11.655	0.8	25.04	0.99	32.076	0.22	6.952	1.5	35.55	0.99	18.612	1.83	27.45	5.29	33.856
5	40.4	0	0	1.06	33.178	0	0	1.28	40.448	0	0	1.96	36.848	0	0	5.62	35.968
6	35.6	0.35	11.655	0.8	25.04	0.99	32.076	0.22	6.952	1.5	35.55	0.99	18.612	1.83	27.45	5.29	33.856
7	42.2	0.65	21.645	0.18	5.634	0.98	31.752	1.21	38.236	0.53	12.561	0.97	18.236	2.81	42.15	4.31	27.584
8	37.2	0.88	29.304	0.54	16.902	0	0	0.64	20.224	1.31	31.047	1.96	36.848	2.48	37.2	2.82	18.048
9	33.3	1	33.3	1	31.3	1	32.4	1	31.6	1	23.7	1	18.8	1	15	1	6.4