

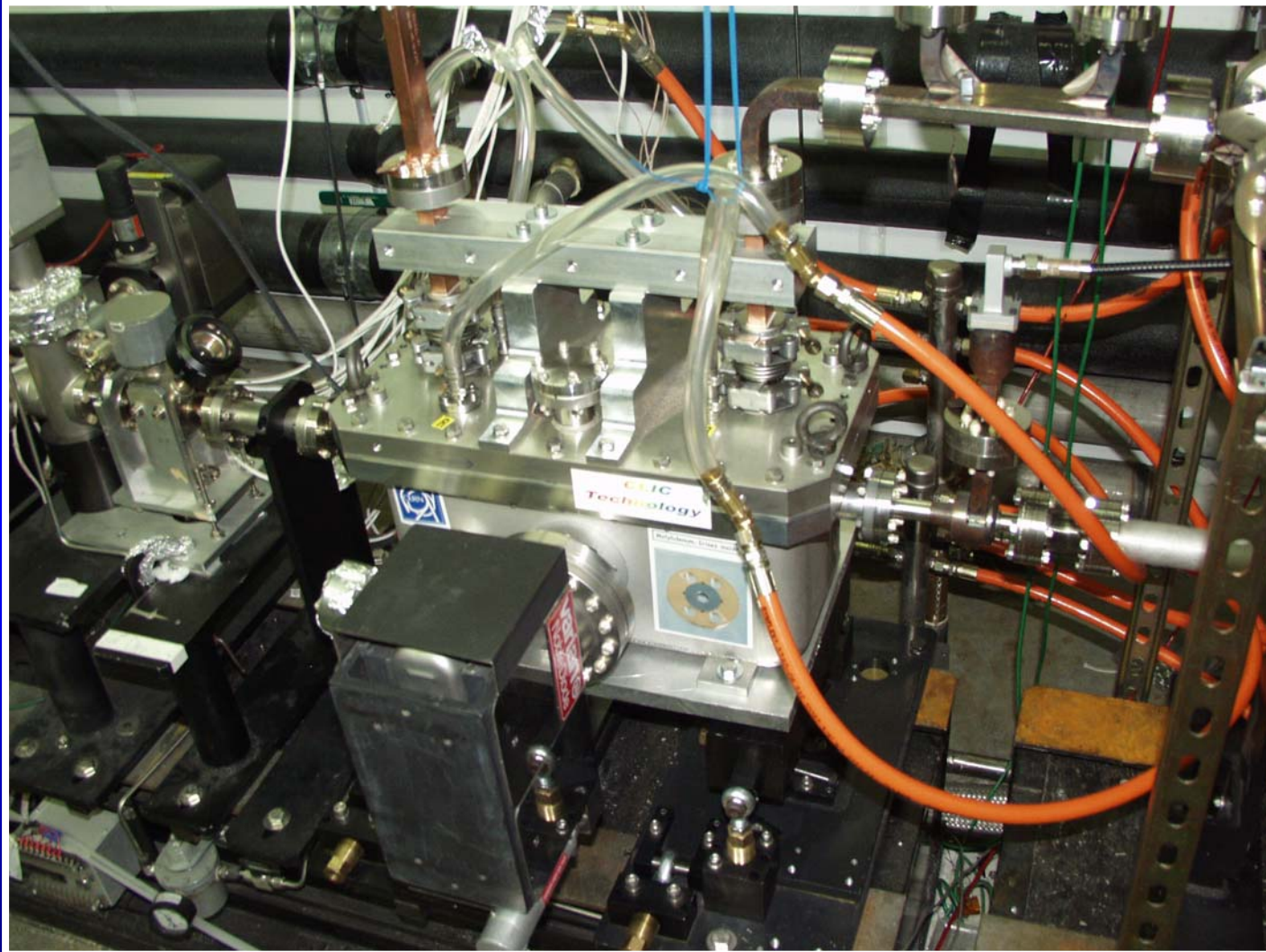


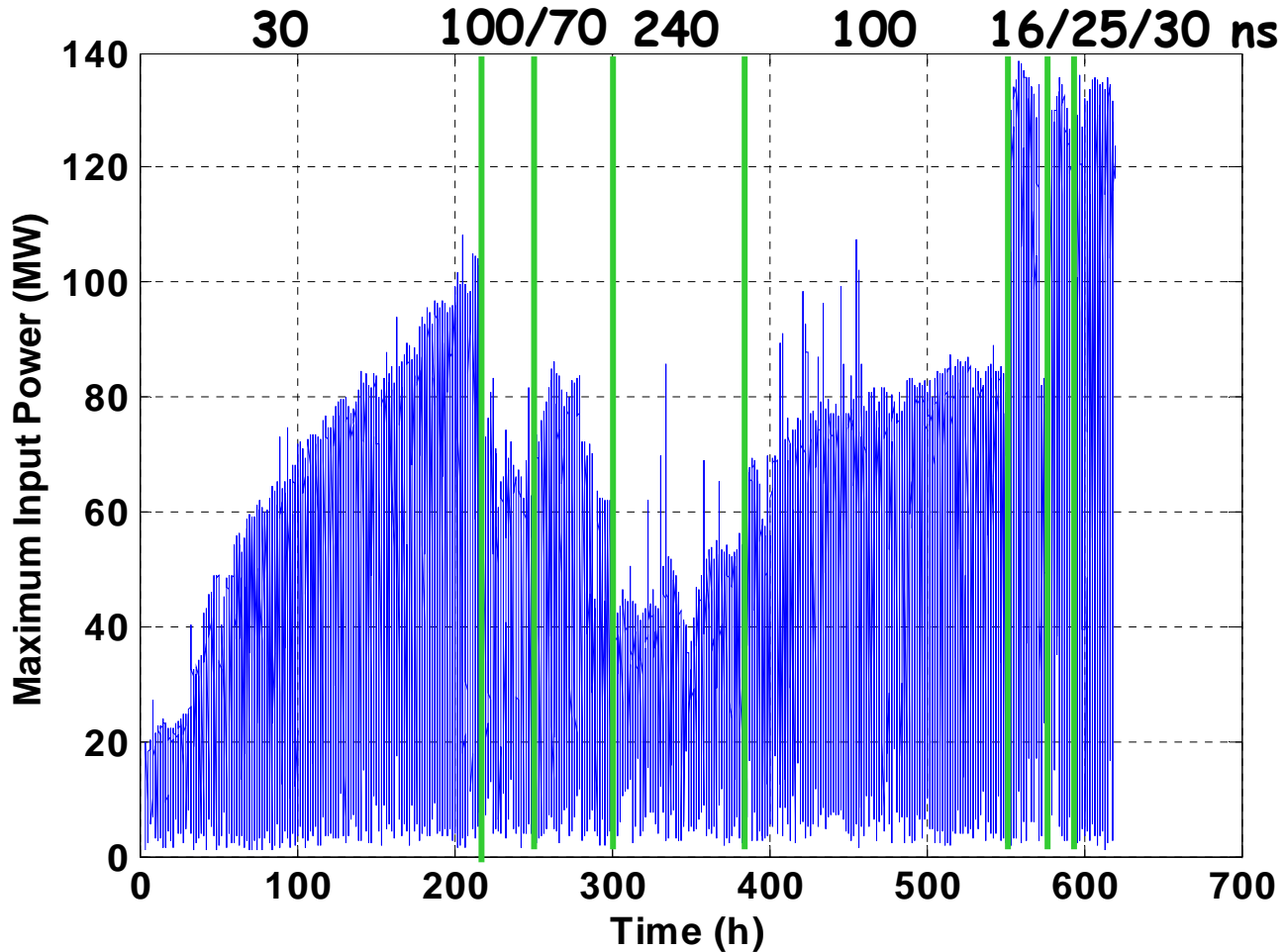
**CERN X-band structure with  
Molybdenum Irises  
Tested in NLCTA  
2003**

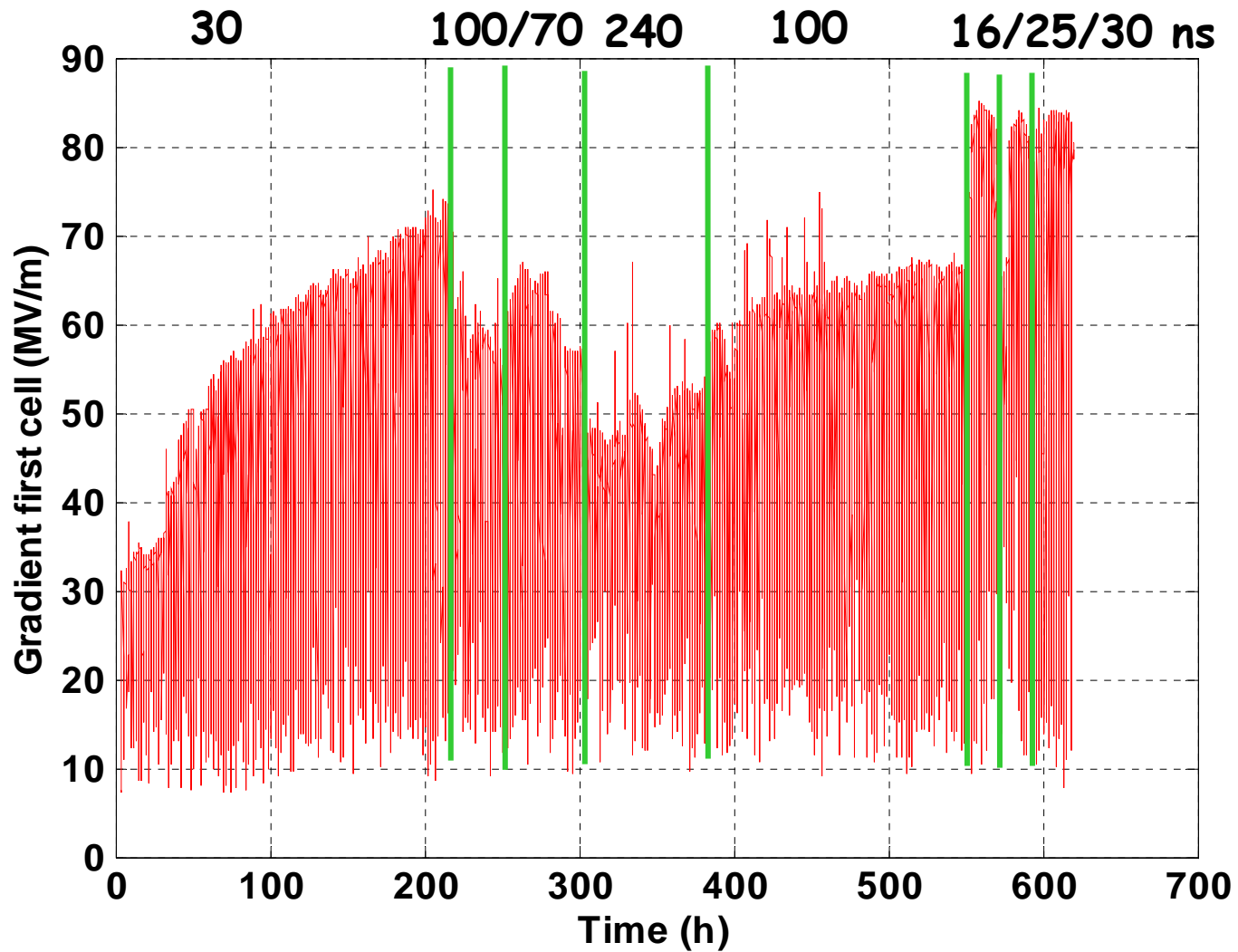
### Clamped constant impedance structure with Mo-irises

Length:	30 cm
Phase advance:	120 deg
Group velocity:	4.65 %
$E_s/E_{acc}$ :	2.2
$P_{in}$ (65 MV/m):	90 MW
Coupler:	mode launcher
Preparation:	Clamping, no bake









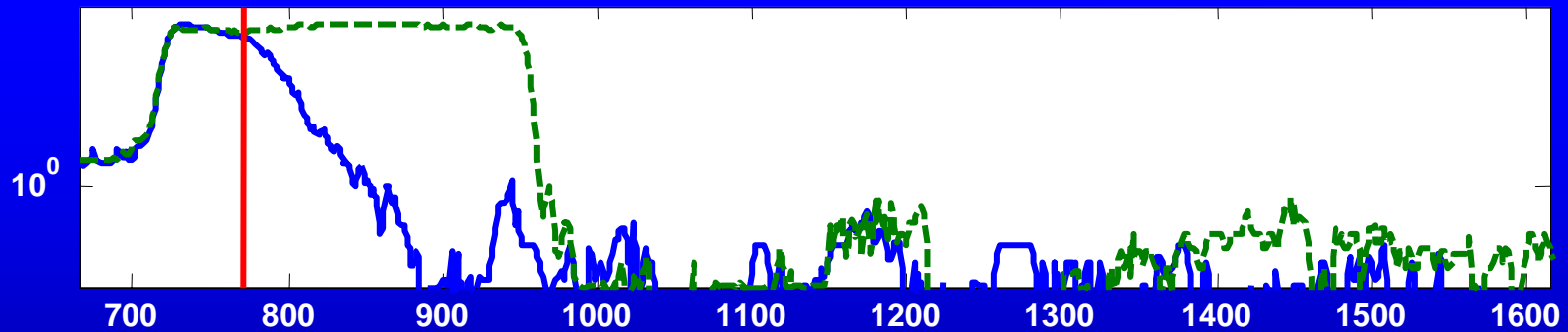
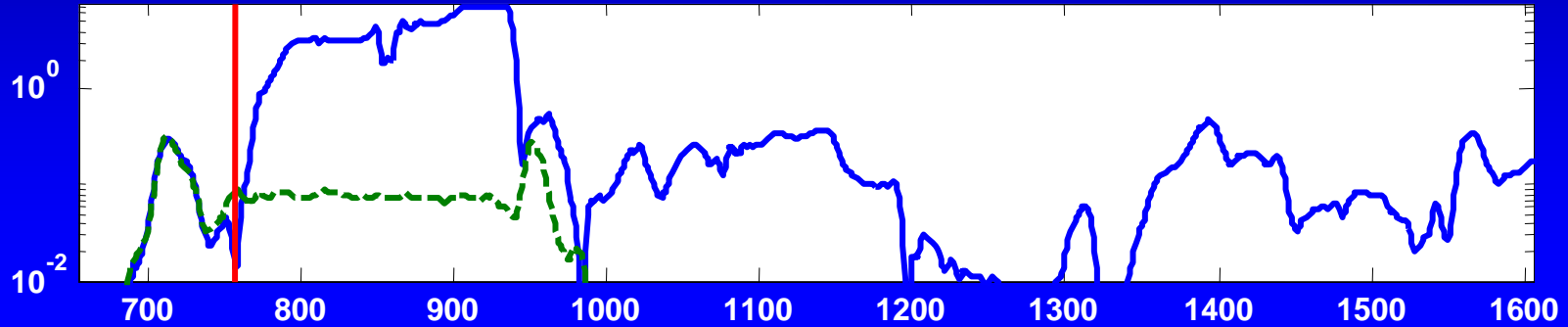


- Vacuum tank arrived vented, therefore purged with hot Nitrogen for 48h
- Rep Rate change from 60 to 10 had no influence
- For short pulse (30 ns) power limit of 140 MW was reached
- Gas activity went down towards the end of conditioning
- Dark current was reduced and beta higher (14 to 30)
- No evidence for damage from RF-data
- Breakdown counter stopped at 28500 but may be a factor 4 more
- Total run time: 700 h

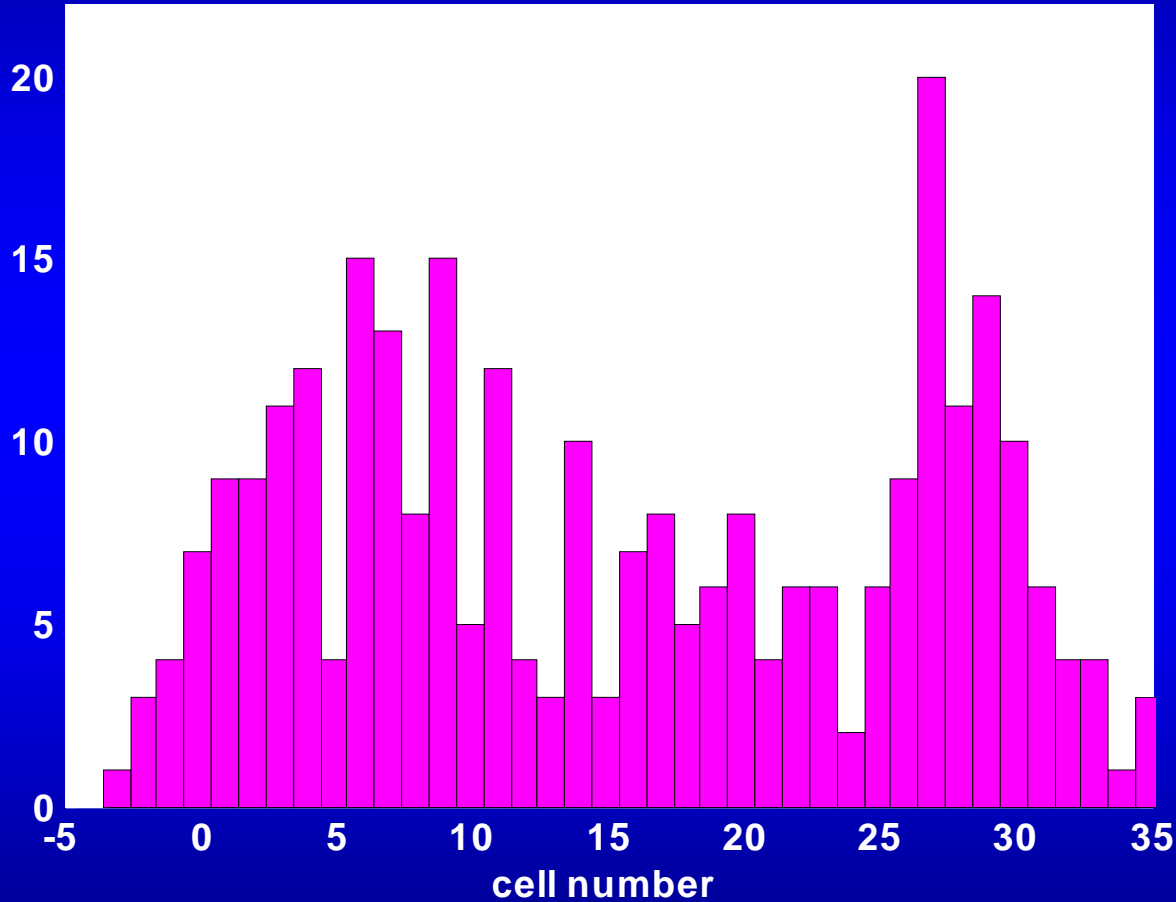


## Pulse Example - C30vg4 - Mo

FME = 0.75 DS = 3 DP = 41 DT = -6 EV = 2



# BD-position - C30vg4-Mo

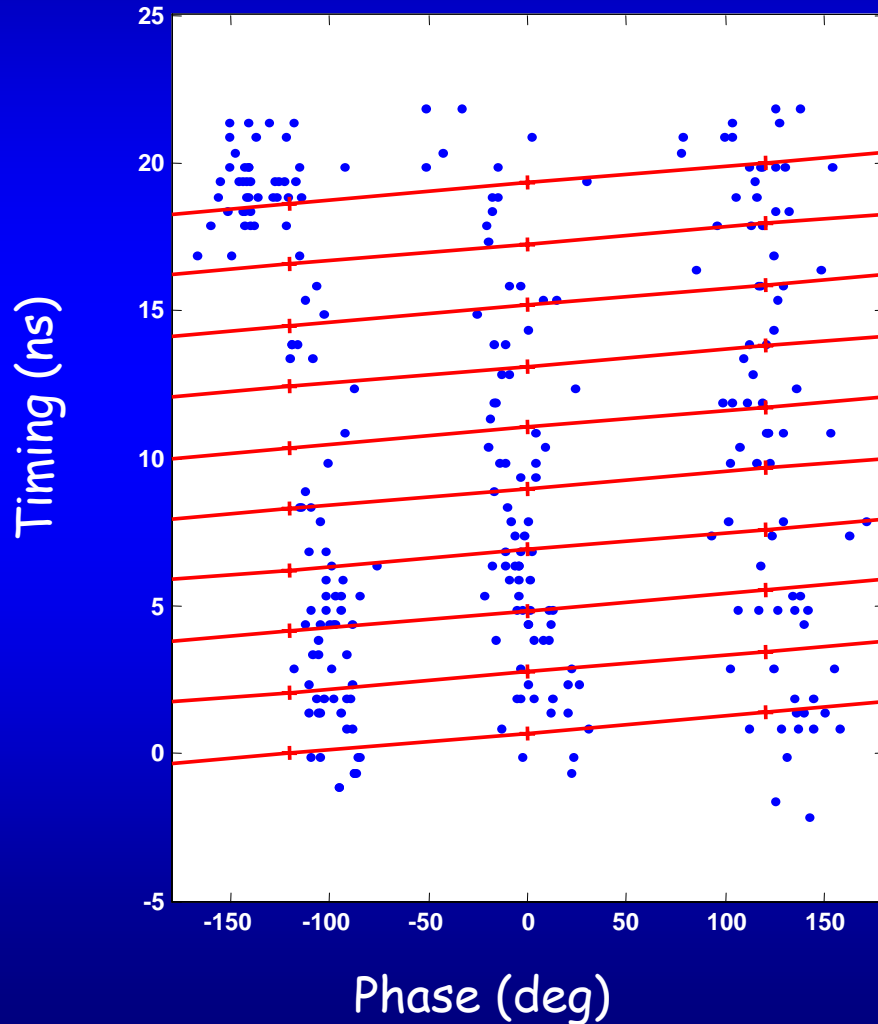




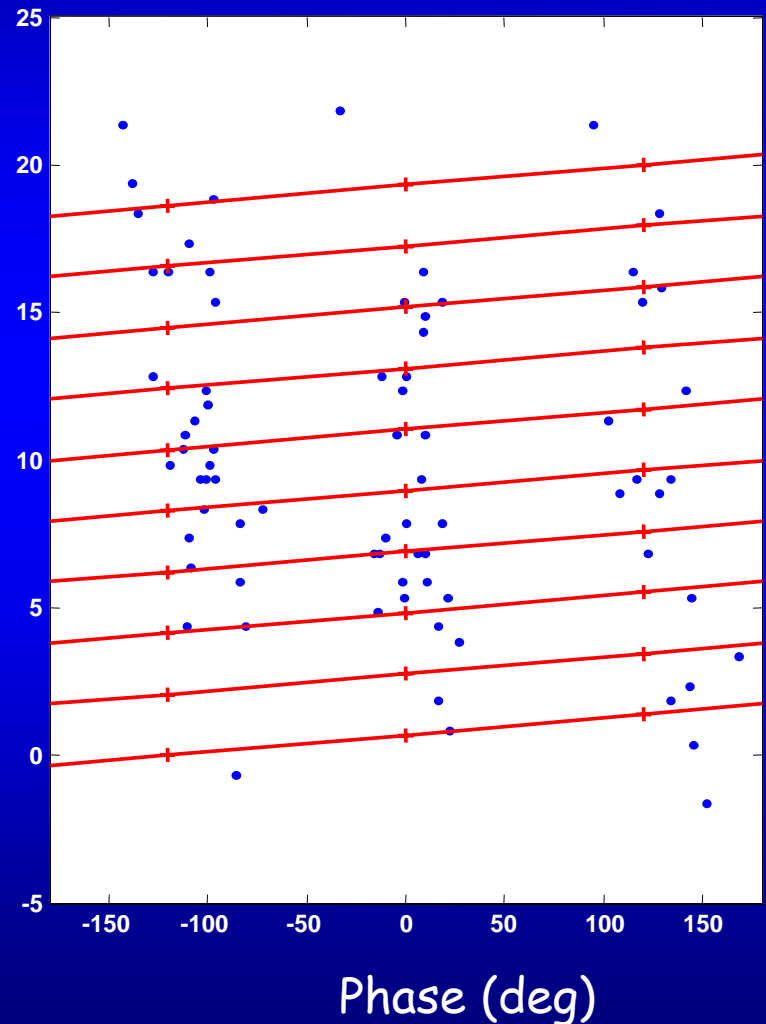
# BD-position - C30vg4-Mo



First 100 ns run

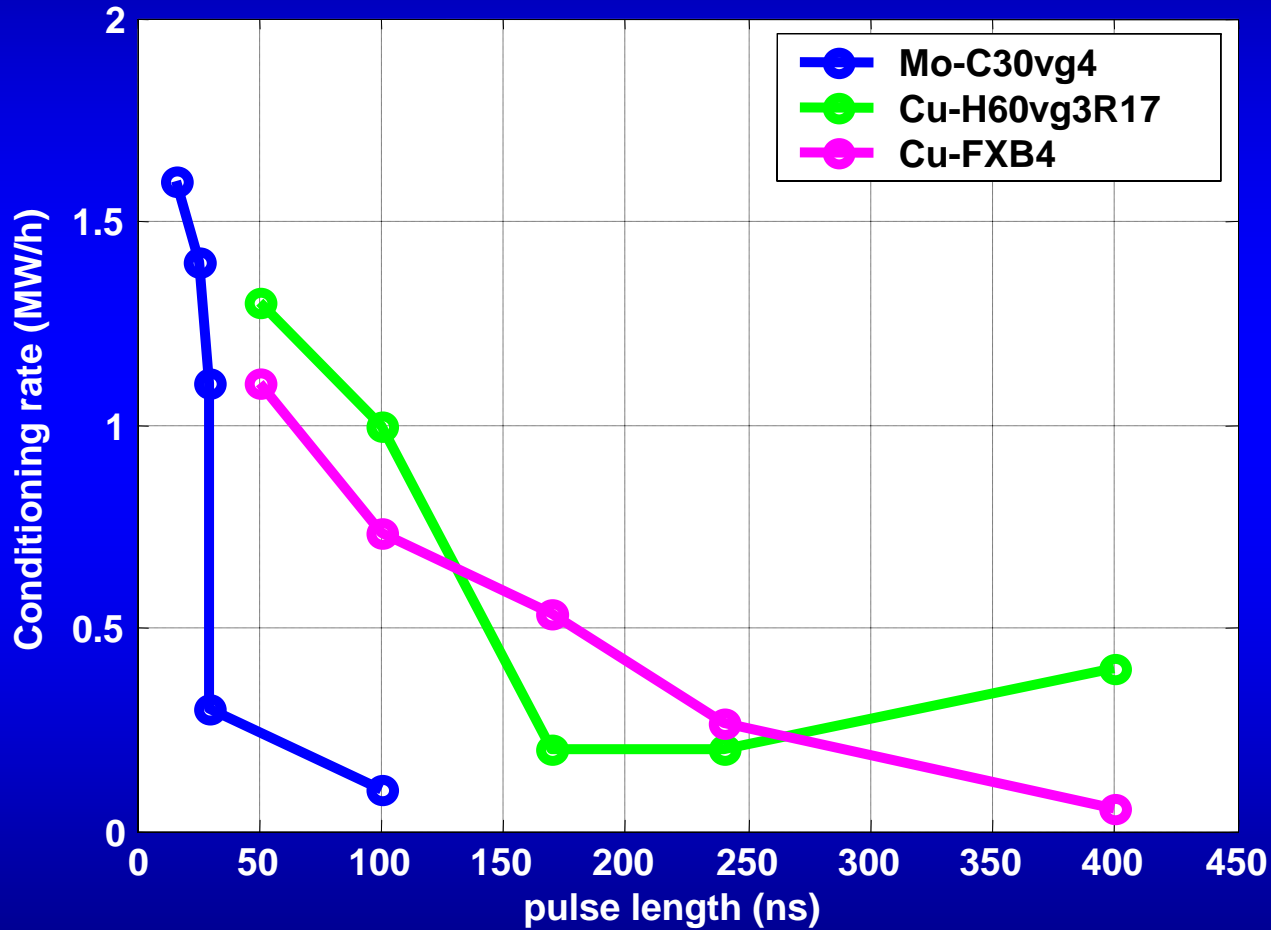


Last 100 ns run



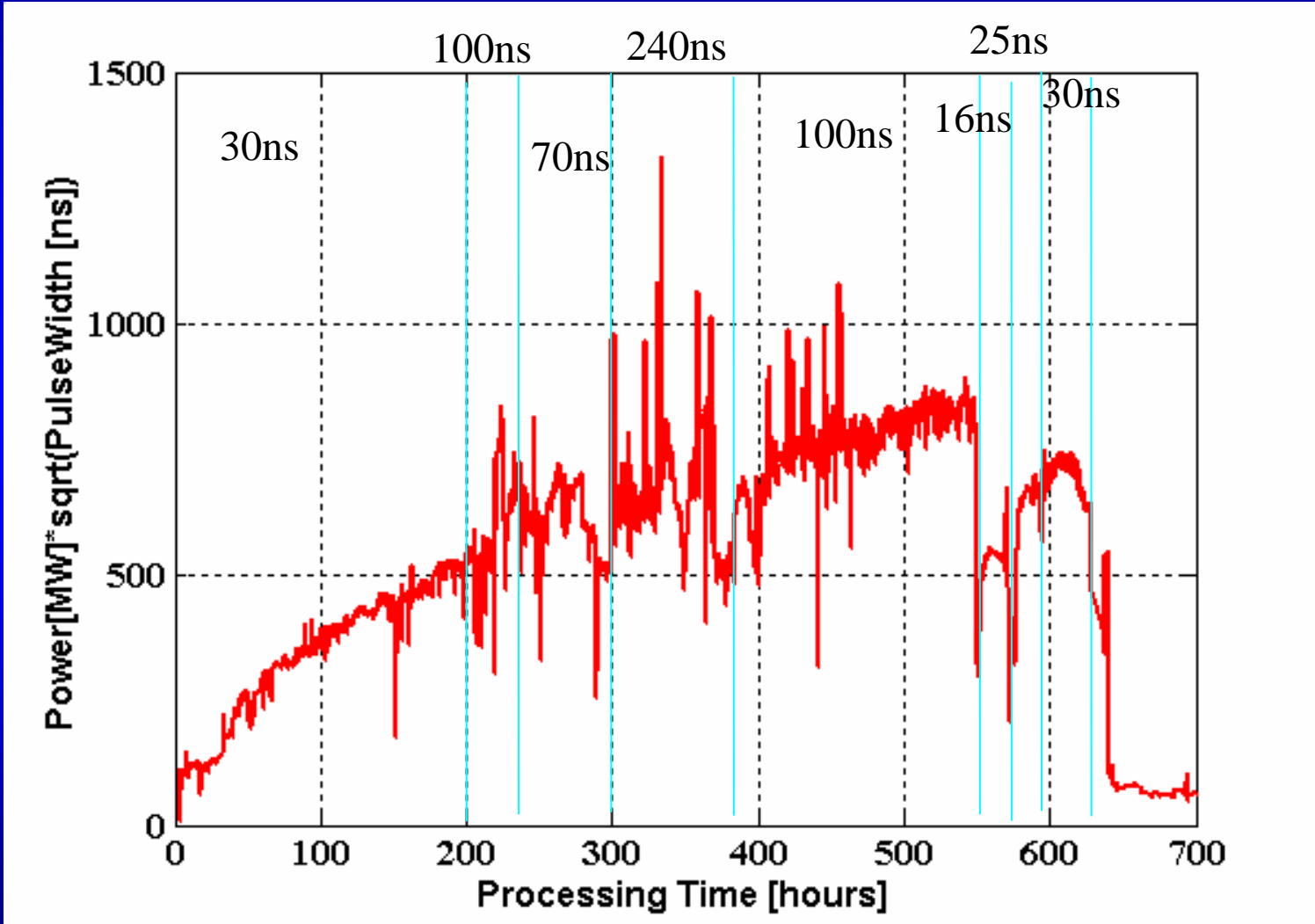


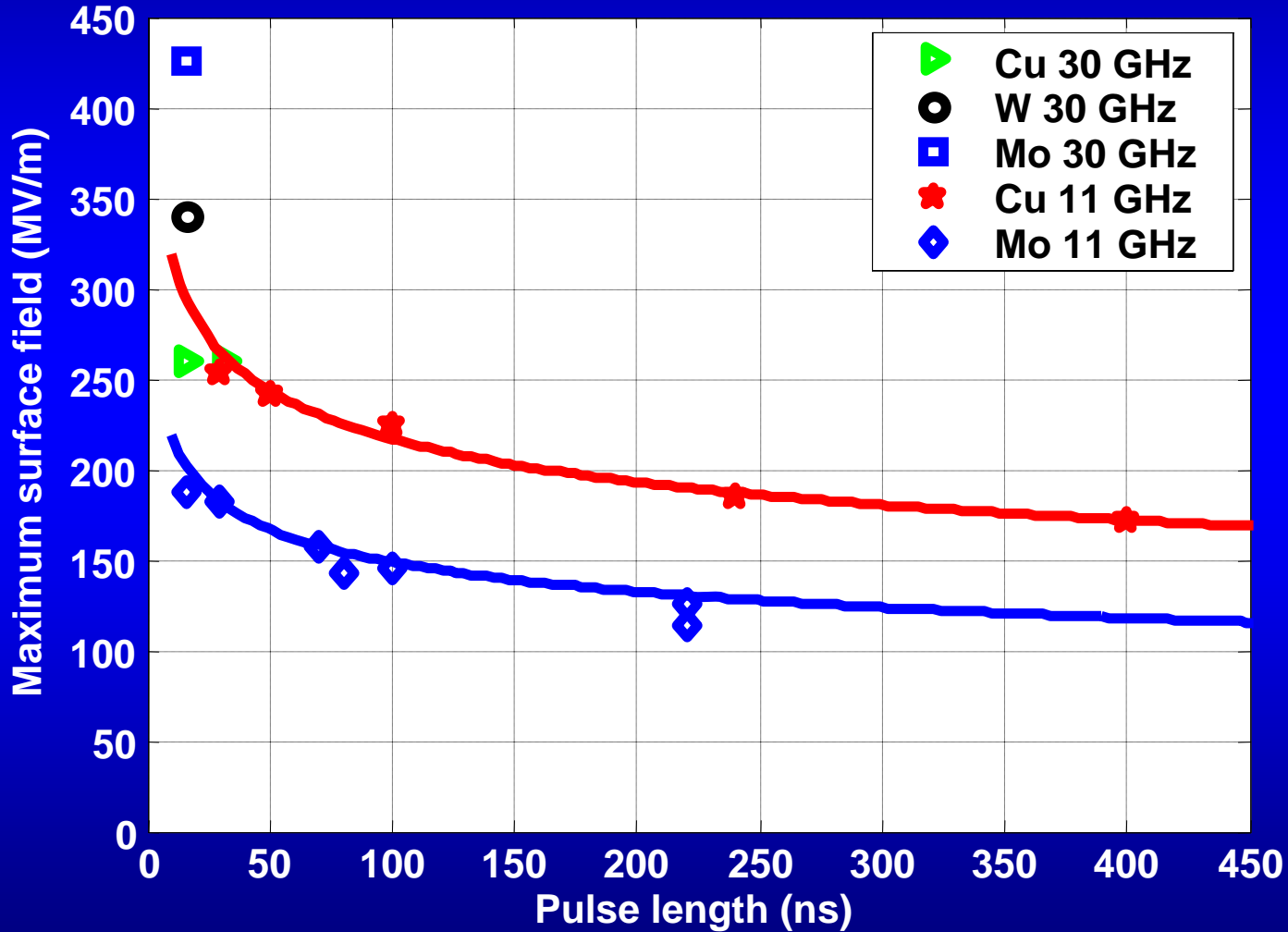
## Conditioning rates - C30vg4-Mo





## Conditioning - C30vg4-Mo





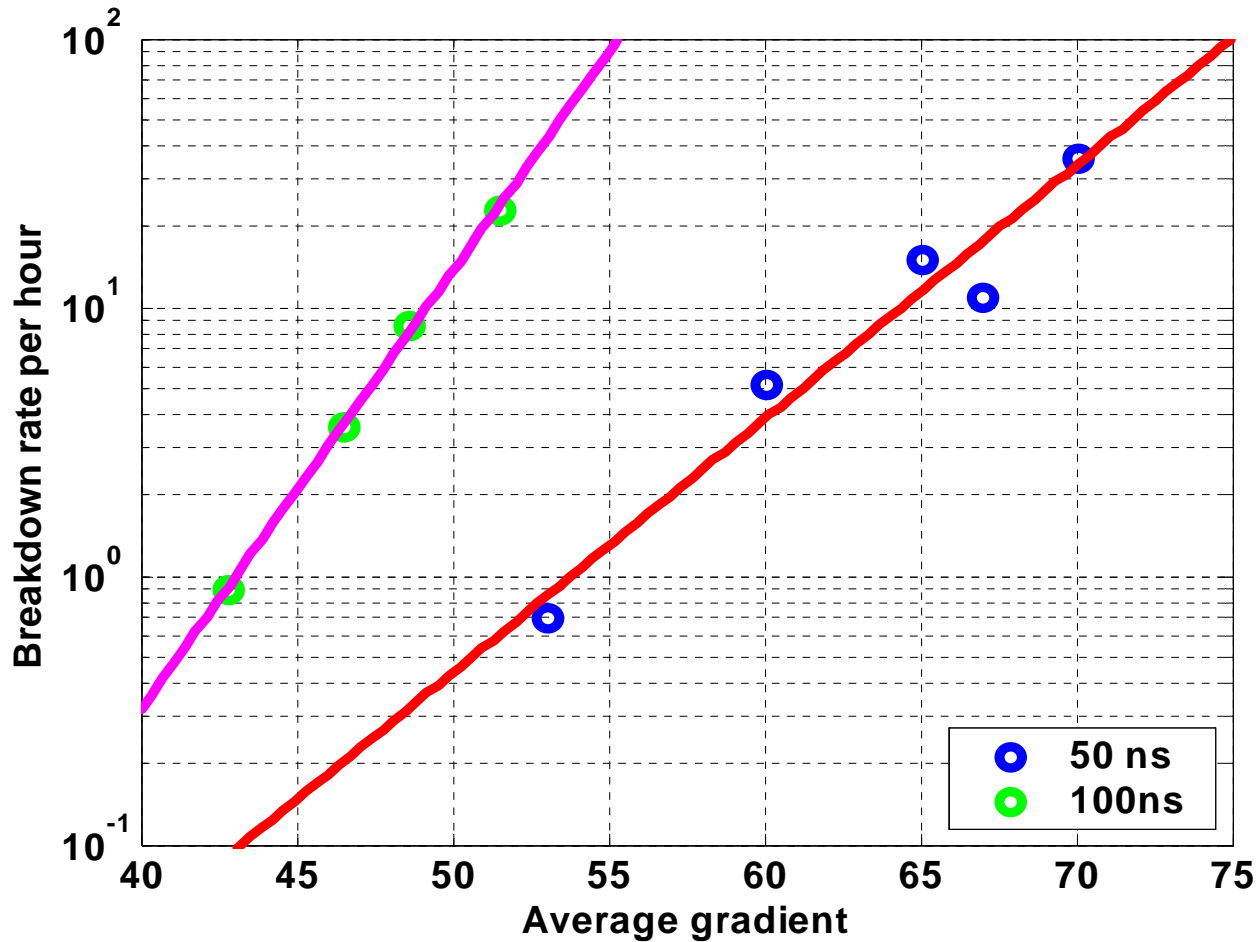


## BD-rates C30vg4-Mo

Slopes:

100 ns; 6.1

50 ns; 10.6



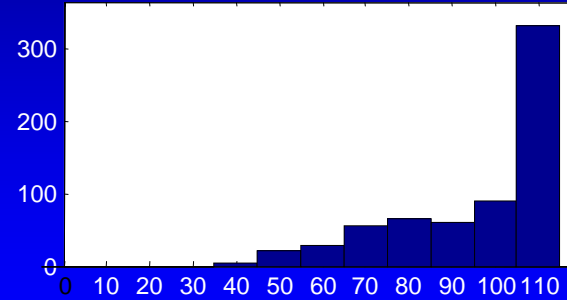


- Performance was worse than expected
- Very slow processing rate
- No effect on average heating
- No indication of damage so far
- Indication that the processing was not finished yet
- Similar pulse length dependence as Copper
- Didn't connect to CERN 30 GHz data at short pulses
- Basically no surface preparation was done

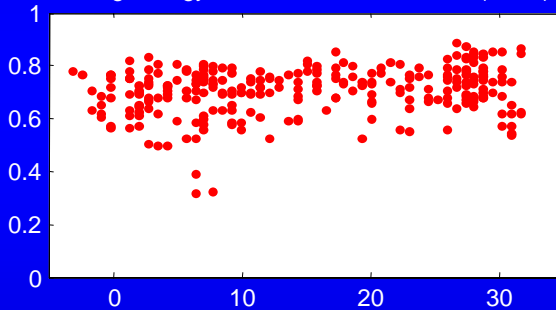


100 ns; 60-65 MV/m

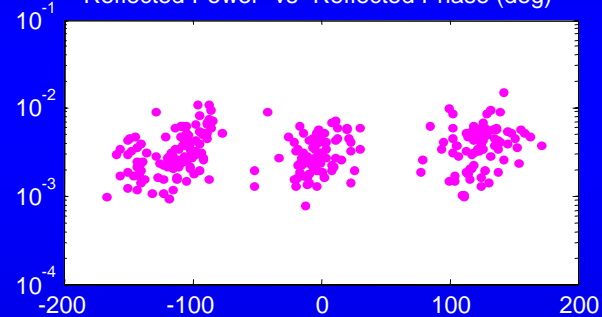
24-27 C30vg4-Mo: Pulse Width (ns): 276 / 366 / 266



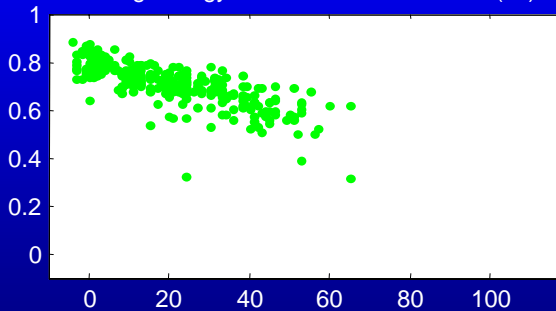
Missing Energy -vs- Breakdown Position (cell #)



Reflected Power -vs- Reflected Phase (deg)



Missing Energy -vs- Time of Breakdown (ns)



Breakdown Position (cell #) -vs- Time (hr)

