

NLCTA Startup Status

March 25, 2001

M. Ross

Status:

- 1) The new structure pair (T20/T105) is now operating at 180 MW 50ns (FW 90% Max). The goal is 200MW, 250 ns. All of the missing energy fault discriminators have been reset to 10% and will be rechecked Monday. There remains unacceptable feedthrough from the modulator pulse. Processing was delayed because the Vee-test controlled peak power analyzer was out of range (maxed-out)!! We did not realize that the goal had been reached. Peak performance at 25 ns was achieved Saturday AM after about 110 hrs; fault rates were less than 1/hr at 30% loss.
- 2) Fault rate for the last 12 hours are equal in T20/T105 at 5/hr. Even though the fault rate is much higher than it is during 'steady voltage processing', spiftest events can still be seen. Fault recovery is slower than expected due to a slow ramp of the pulse width DAC. This will be checked Monday. Fault recovery is 40 s for amplitude followed by 100 s for the pulse width ramp.
- 3) Beamline pressure is between 1.4 and 3 nano-Torr. An attempt was made to seal the leak in the structure imager bellows Thursday. It appears to have failed since the nearest gauge (VGH_0003) does not indicate any vacuum improvement in the last 48 hrs. The other three gauges show improvement at the level 0.5 nano-Torr. The RF processing appears as 0.1 nano-Torr spikes in the history; much below the 10-20 nano-Torr spikes in the pump history for DS2S and DDS3. RGA data will be recorded Monday.
- 4) RE/FE data streaming (every pulse) began Friday. Acoustic emission sensor data is also being taken. It is triggered by the fault trigger.
- 5) Cable labeling was done Thursday; an error was found in the klystron output reflected signal. This will be fixed Monday.

Plans:

- 1) Above list (interlock noise suppression; DAC ramp rates; RGA data; cabling error)
- 2) Data summary from streaming (13.8 Gbytes) in order to follow trip sequences.
- 3) Video imager commissioning.