# Superconducting quadrupole status

- o Instability of chopper power supplies for skew quads and steerings resolved
- o All 12 magnets run at well above lattice requirements for  $\sim 1$  shift with CLEO solenoid on
- o Quenches have occurred with
- ♦ Line glitch
- ♦ Powering quad bus on and/or off
- o Quench recovery time < 1/2 hour.

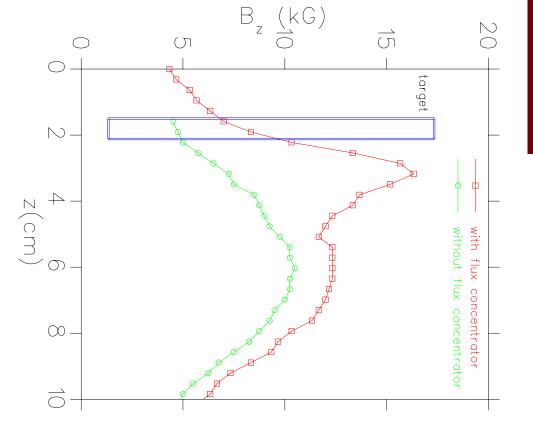
#### • RF

- All cavities cold and processed to > 100kW
- o W2 neutral position
- Resonant frequency very near operating value and cavity is floppy and subject to microphonic noise
- In the past reduce cryostat pressure to shift neutral position
- $\diamond$  Increased load on refrigerator makes that difficult

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#### Positron converter

- Pulsed solenoid lens
- Flux concentrator maximizes field immediately beyond target
- o Peak  $B_z \sim 20 \mathrm{kG}$
- $\circ I \sim 4 \text{kA}$
- o 7.06mm tungsten-iron target
- First measurements indicate > X2 accelerated positron beam
- o (Mitsubishi klystrons yield higher energy electron beam on target)



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### Friday evening - October 5

#### Startup

- o SCIR Skew quad and steering chopper power supply control circuit failed due to ground fault trip in SK 2E
- o No sen nmr for dipole
- o Pre shutdown save set
- $\diamond$  Positrons to IR as indicated by CLEO radiation monitors
- o High  $\beta$  startup optics
- $\diamond$  Signal on BPMs but no radiation
- o Switch to electrons
- o Dipole power supply scalar readback flashed to zero

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#### Commissioning Plan

- Alignment of IR quads is critical
- 0.5mm vertical displacement of Q01  $\rightarrow$  22mm orbit error
- Startup optics
- $\circ~\beta^* \sim 10 \mathrm{m}$
- o  $k_{Q1}$ = -0.1 (5% nominal)
- Procedure
- o Store beam in high  $\beta$  startup optics
- o Align quadrupoles with remote positioning system
- o Dump beam and adjust quad rails
- o Load 4s luminosity optics and repeat
- o Load 3s optics and begin HEP tuneup

## **TRESONANCE RUN PLAN**

Total $[fb^{-1}]$	Start date	$\rm Luminosity[pb^{-1}/day]$	$\operatorname{Beam} \ \operatorname{Energy}[\operatorname{GeV}]$	
1.2	16-Nov-01	33	5.175	$\Upsilon_{3S}$
1.2	1-Feb-02	23	4.7	$\Upsilon_{1S}$
0.7	1-May-02	25	ÇT.	$\Upsilon_{2S}$
?	16-Nov-01 1-Feb-02 1-May-02 25-Jun-02	?	?	Follow up

- Machine studies  $\sim 2 \text{ days/week}$
- o Prepare 1s optics
- o Low energy (1.9GeV) injection, instabilities, optics ...
- $\circ$  Round beam test at  $1.9 {\rm GeV}$
- Machine down 1 shift/week

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