SSRL GTF Laser System Update

Jeff Corbett
GTF System Laser Safety Officer
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JEDI Beamline

7ns JEDI
~10W@120Hz
Philippe Hering

10W@532nm
100mJ
BBO
0.2%

M.C.E.

<200μJ
10mW@266nm
Attn

TT2

Ryan Coffee

100μJ
to SSRL gun

Linac Vault

Optical bench before SSRL gun

HeNe
Oscillator/Regen Beamline

TimeBandwidth Oscillator (100MHz) → Stretch to 1ns → PositiveLight Regen (2.5Hz) → Compress to 1ps → 50mW@1054nm

M.C.E.

Attn

HeNe

TT1

LINAC VAULT

to GTF gun

100uJ

Optical bench before GTF gun

Oscillator

Regen

BBO

527nm

263nm

50mW@1054nm

~2.5mJ

Steve Edstrom

200uJ
Work List

JEDI Laser
  appears to work
  switch to external timing

Oscillator
  needs tune-up
  time to linac MO

Regen
  reasonable output
  time to linac/oscillator

SHG/THG
  construct red/green/blue harmonic beam line
  identify crystals
  diagnostics and attenuation

Transport lines
  JEDI to SSRL gun ok (remote control and diagnostics)
  Regen to GTF needs alignment (remote control and diagnostics)