IR ISSUES

Ron Settles
MPI-Munich
3.9.02

... that is (for here),

Establish & control e^+e^- luminosity ($\sim 10^{34}$) reliably from FD to IP ($\equiv$ IR)

BDS, FF, collimation $\rightarrow$ Session 2. Nick Walker / Angeles Faus-Golfe

Main linac to IP $\rightarrow$ talk Andrei Seryi Session 1

$\gamma\gamma \rightarrow$ talk Mayda Valesco (this Session #4)

Tom Markiewicz started list of issues which I added to, repackaged for purposes of this talk...
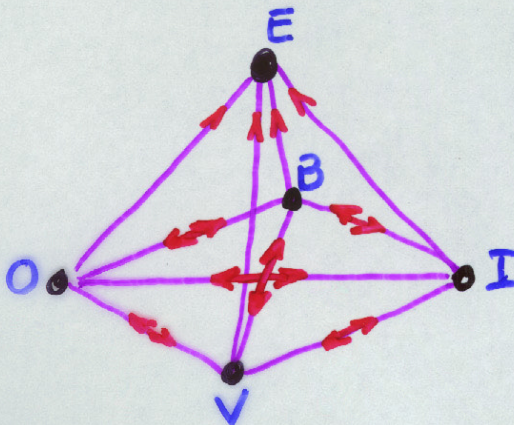
Overview of Issues @ IR

Vibration
Optics
Instrumentation
Backgrounds/masking
Engineering

parameter
space
is large

→ Designs

issues are
highly correlated

VIBRATION

the biggest issue : how to
correct / stabilize beams at IP
to sub-nanometer level   S

- Andrei Seryi, Joe Frisch talks Session 1
- Sessions 3, 3b   Andrei Seryi,
                    Vladimir Shiltsev

- inter/intra train - feedback/forward
  bunch steering
    - low freq.   Session 7   Phil Burrows
    - high freq.   Susan Smith

- "mechanical": optical/inertial
  stabilization sessions 3, 3b   A.S.
                                 V.S.

- final doublet: warm vs. cold -
  influence on vibration? M.Kumada, B.Parker
                          talks?(this session)

- masking influence on stability?

- noise - seismic
    - cultural   Sessions 3, 3b   A.S.
    - detector   V.S.

OPTICS

in a state of flux...

- L*   Session 2   N.W.
                                            A.F.G.

- crossing angle   P. Tennenbaum talk (this session)
  - crab cavity   J. Frisch talk (this session)
  - extraction line choices
  - solenoid field effect PT

- FD magnets
  - warm vs cold   M. Kumada
    beam optics   I. Iwashita } talks
                          E. Antokhin } (this session)
                          B. Parker

  - d(gradient)/dz,
    dB/dz limits on PM tuning schemes

  - running at different energies

  - alignment

INSTRUMENTATION

still lots to be understood... session 7   P.B.
                                           S.S.

Nan Phinney talk?
                    (this session)

- devices

  - IP feedback
  - optical anchor
  - inertial anchor
  - laser wire   Session 6 Grahame Blair
  - pair monitor

- what needs to be monitored

  - beam position, angle
  - $\sigma_x, \sigma_y, \sigma_z$ /overlap
  - $\mathcal{L}, E, \mathbb{P}$ Session 5 Bernd Dehning
                                               Mike Hildreth

- how does background affect IP devices?

- background vs. x, y, z

BACKGROUND/MASKING @ IP

... is this under control?   Daniel Schulte talk
                                (this session)

- background dose/rate

- masking influence on stability

- background affects IR devices?

ENGINEERING

integrated system design needed ...!

Session 9 Günther Greschonke
Witold Kozanecki

- Tom's list:
  - support tubes across IP
  - cantilevered tubes
  - movers, gears, motors, etc
  - springs
  - bellows, flanges, pumps, cables
  - detector access (!)