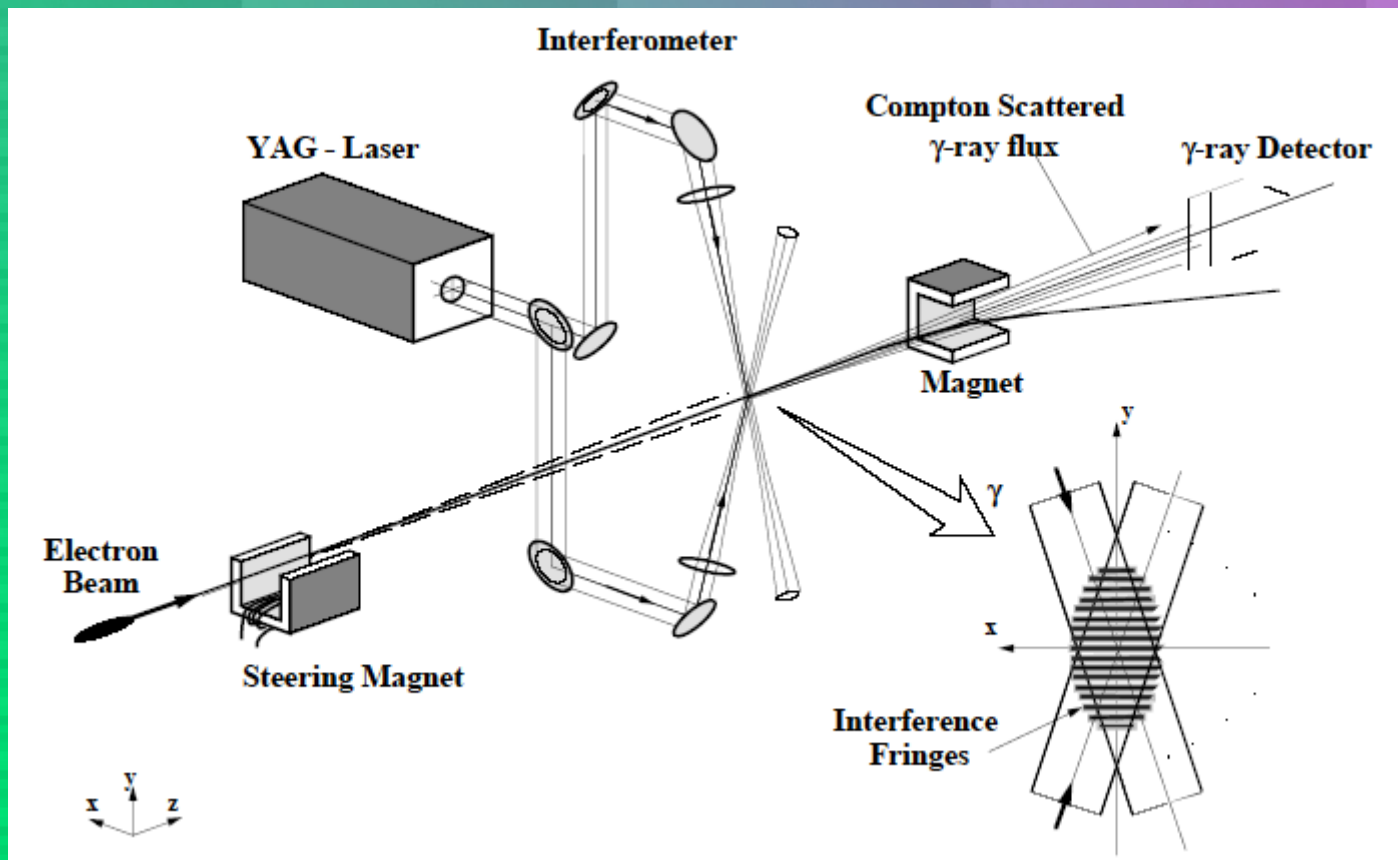


# Laser interferometric beam size monitor (Shintake-monitor)



# Shipping from SLAC

- Sanuki-san, Okugi-san, & SLAC people now preparing @ SLAC
- Arrival : 6/Mid ??

# Gamma detector Background

- Signal :  $O(10,000) \gamma$  s (28 MeV max.)
- Synchrotron radiation from bending magnet
- Bremsstrahlung from interaction with electron and remaining gas or beam-pipe
- Radiation from beam dump
- Others (?)

# Synchrotron Radiation

- Bending magnet :  $\sim 1\text{T}$  (assumption)
- Energy loss :  $\sim 50\text{keV} / 2\pi : 10^7\text{ MeV} / \text{bunch}$   
(a few keV / bend?)
- Critical energy :  $\sim 1\text{ keV}$
- Power spectrum decreases exponentially  
(for much higher energy than  $E_c$ )
- Practically no  $\gamma$ s  $> 1\text{ MeV}$  ( $O(e^{-1000})$ )
- Negligible as background source
  - Maybe need low energy cut.

# Bremsstrahlung

- Broad energy spectrum
  - Overlap with signal energy region
- Laser On / Off compensation
- Beam halo removal

# Radiation from beam dump

- Maybe large signal
- Broad energy spectrum
- Delayed (depends on distance from dump)
- From all direction

# Beam dump radiation check

- ATF beam dump radiation check
- Perform in May (ATF operation : 5/16~)
- Check point :
  - Radiation amount
  - Energy spectrum
  - Time spectrum
  - Particle ID(?)
- Detector :
  - Crystal calorimeter (available)
  - Chrenkov counter (need to prepare)
  - Others (if any idea)

# Another background

- Positron group detects unknown bg signal.
- 1 signal in a few pulses.