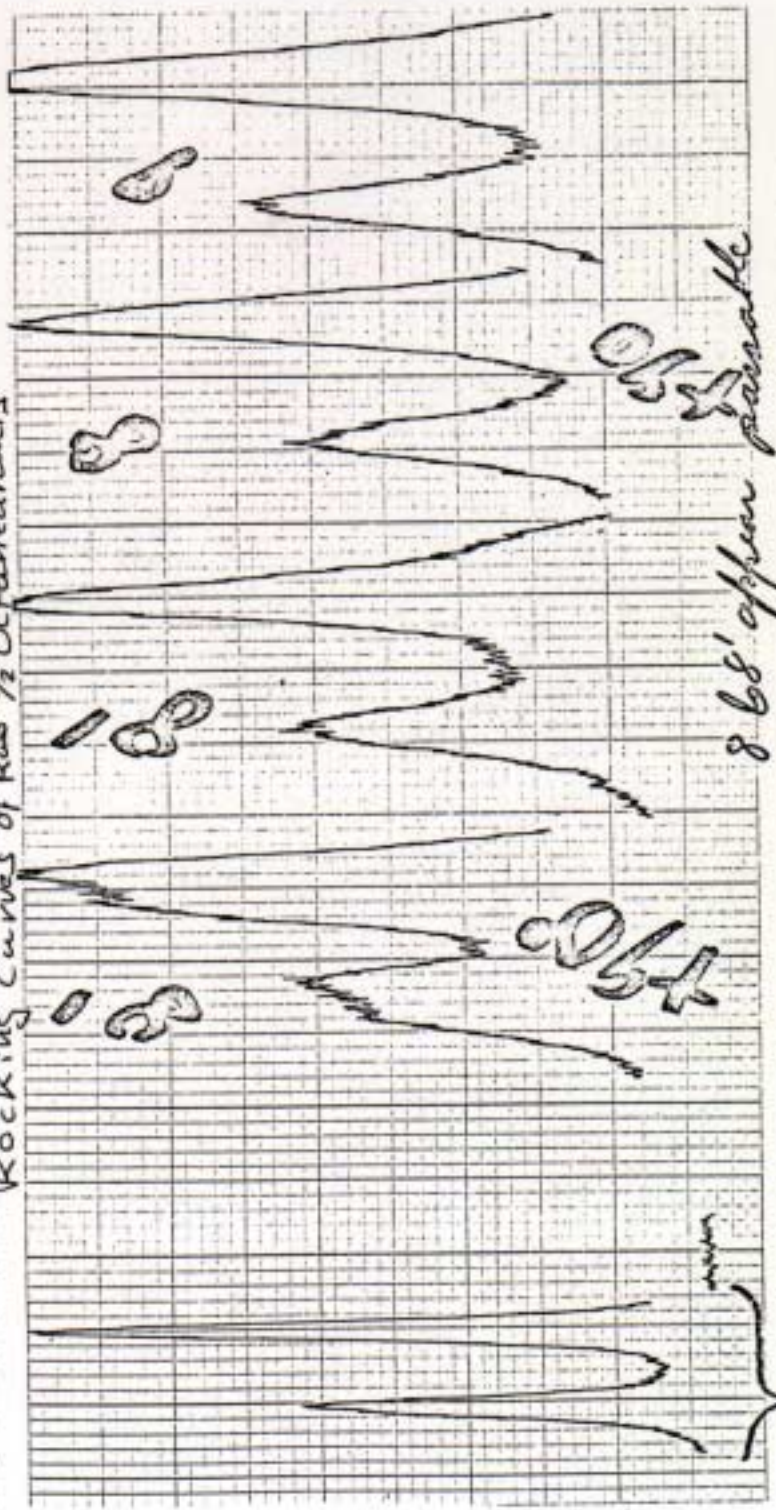


MIT-SLAC
GONIOMETER
ca. 1970

Rocking Curves of Row $\frac{1}{2}$ Octahedrants



but expect different results from different orientation

This is what a "perfect" crystal would give. (actually SiO_2)

Reference Si 333 Diamond reflection 113 & 715

see 40 sec. 1. inch

0.061" Diamond
4 SHIPPED T



0.0033" Diamond 1-3-73
 $E_0 = 20 \text{ keV}$ $I = 20 \text{ mA}$ $t = 2 \text{ min}$ Q

LAUE X-RAY Pictures of Diamond Targets



0.0032" Diamond 3-14-73
 $E_0 = 21 \text{ keV}$, $I = 19 \text{ mA}$, $t = 1 \text{ min}$

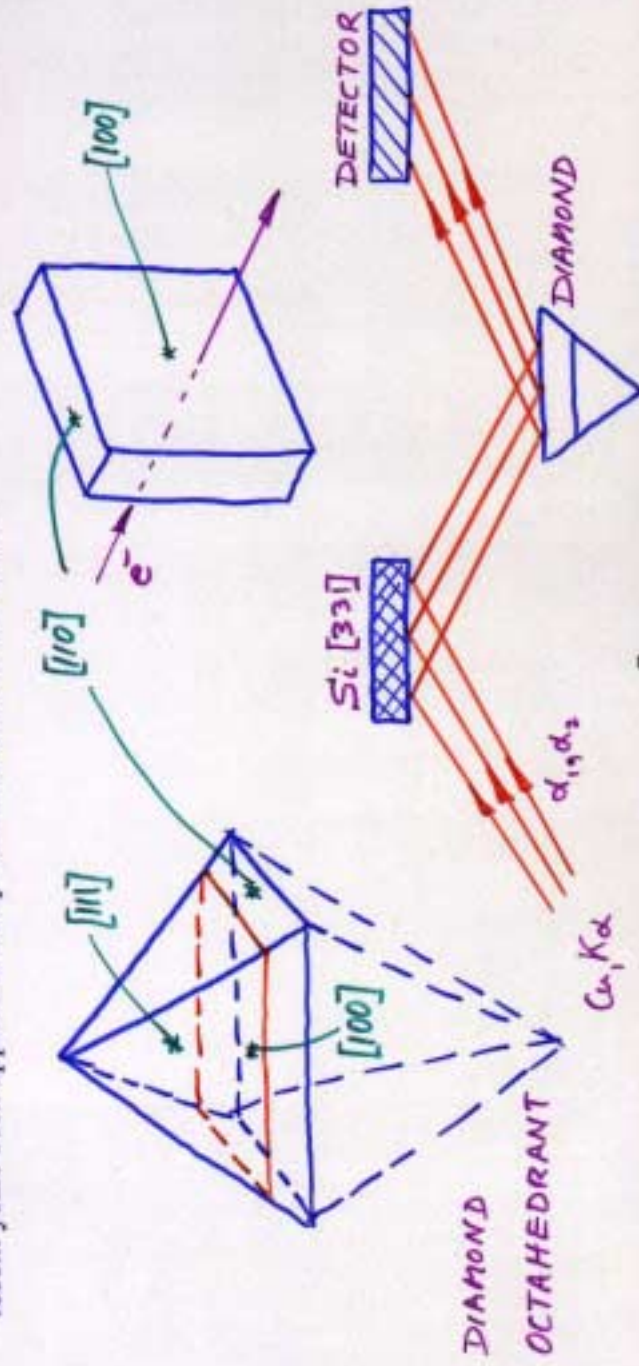


0.00193" Diamond 1-7-72
 $E_0 = 20 \text{ keV}$



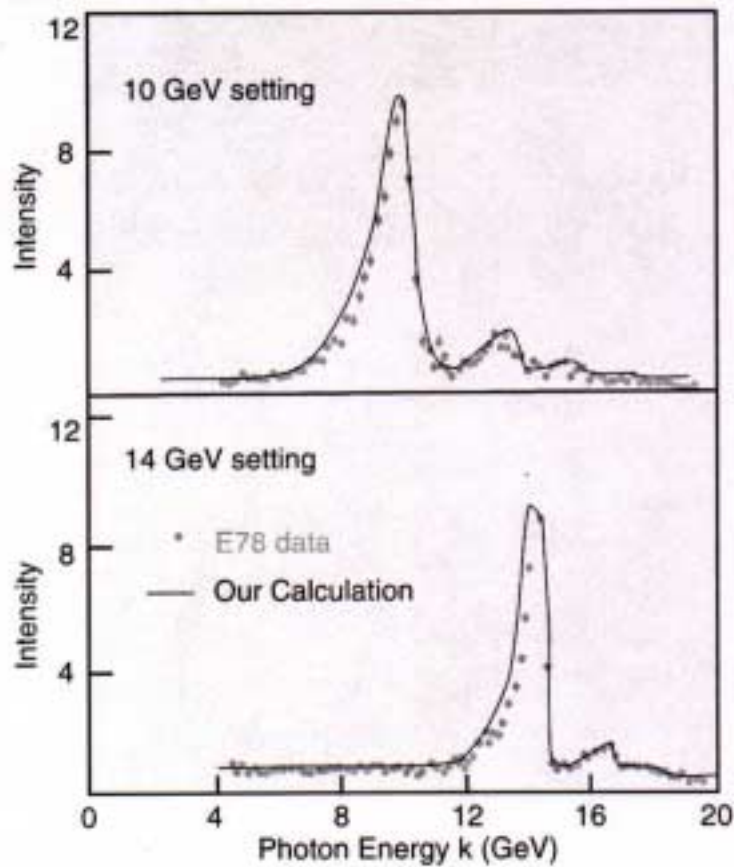
- ◆ Steering SEM (secondary emission monitor) assembly ahead of the Goniometer has two SEMs with window sizes appropriate for target size. One has small aperture to set up beam, the other to run experiment with low background while protecting Be-holder and alerting experimenter/beam operator that beam has drifted.

Technique of using goniometer-mounted single crystal targets and specifically diamonds has in recent years been applied at many institutes all over the world.

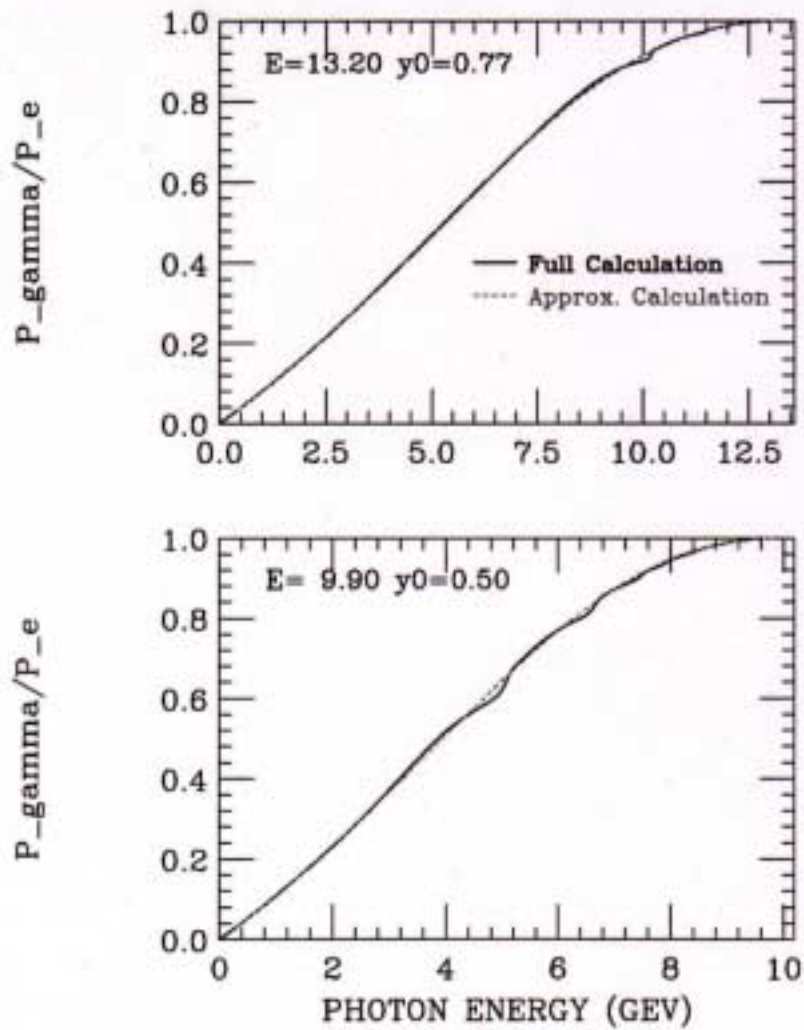


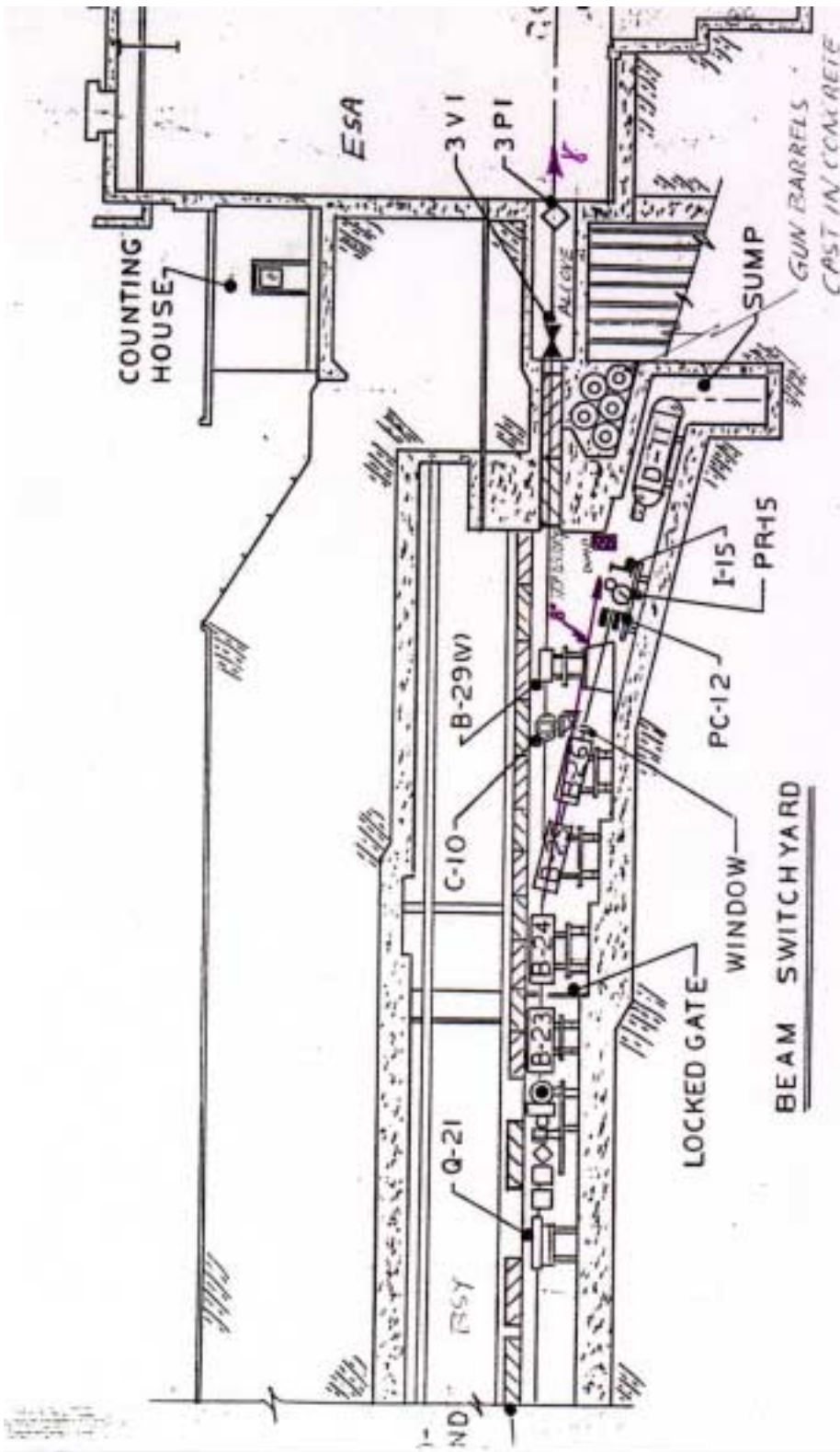
COMPARISON OF OUR CALCULATIONS WITH E78 MEASURED SPECTRA

Actual spectra slightly narrower: mosaic spread
and/or beam emittance? Electron beam en-
ergy was 19.7 GeV.



PHOTON CIRCULAR POLARIZATION





LONGITUDINAL SECTION

B.S.Y. - E.S.A. AREA

