



Jefferson Lab Alignment Group

Data Transmittal

TO: D. Kashy

DATE: Jul 14 2004

FROM: J. Dahlberg

Checked:

: B936

DETAILS:

Below are the results from the Jan 28, 2004 inspection performed on the HyCal detector located in the Test lab. Note that the inside edges of the crystals near centerline at the downstream end were difficult to reach and the beam left and top edge readings are questionable. Two sets of data are listed, the first with a coordinate system based on the circular aperture at beam centerline, and the second relative to average planes defined off the inside edge of the crystals. This gives a larger lever arm to set pitch and yaw. The measurements on the crystals at centerline were not used to define the second coordinate system because of the short lever arm and the difficulty to reach. The roll for both coordinate systems was set using an average of the four inside planes defined off the crystals. A +X is to the beam left, and +Y is above. The measurements on the outside most crystals are numbered as labeled on the detector.

DOWNSTREAM END

LOCATION	X	Y	X	Y
CL APERTURE	0.00	0.00	0.17	0.25
INSIDE EDGES OF CRYSTALS				
BL 1	351.33		351.68	
BL 8	351.41		351.72	
BL 17	351.97		352.25	
BL 26	351.59		351.84	
BL 34	351.46		351.67	
BR 1	-354.30		-353.94	
BR 8	-353.65		-353.34	
BR 17	-352.80		-352.52	
BR 26	-352.64		-352.39	
BR 34	-352.73		-352.51	
TOP 1		352.45		352.85
TOP 8		352.48		352.85
TOP 17		352.50		352.85
TOP 26		352.78		353.11
TOP 34		352.26		352.55
BOT 1		-352.80		-352.38
BOT 8		-352.83		-352.44
BOT 17		-353.03		-352.67
BOT 26		-352.96		-352.64
BOT 34		-353.02		-352.73
INSIDE EDGE OF CRYSTALS AT CENTER APERTURE				
BR BOT		-20.83		-20.58
BL BOT		-20.94		-20.68
BL SIDE BOT	16.41		16.58	
BL SIDE TOP	19.98		20.14	
BL TOP		19.41		19.67
BR TOP		20.97		21.23
BR SIDE TOP	-20.73		-20.57	
BR SIDE BOT	-20.92		-20.75	

**Jefferson Lab Alignment Group Data Transmittal
Continued**

Page 2 of 2

Date : July 14, 2004

Transmittal # : B936

**UPSTREAM END
LOCATION**

X

Y

X

Y

CL APERTURE

0.00

0.00

0.07

0.17

INSIDE EDGES OF CRYSTALS

TOP 1

352.48

352.52

TOP 86

353.10

353.21

TOP 136

353.15

353.23

TOP 142

352.68

352.83

TOP 173

352.52

352.66

TOP 213

353.06

353.15

TOP 651

353.14

353.20

TOP 728

351.80

351.97

BR 155

-352.51

-352.47

BR 158

-353.68

-353.75

BR 202

-353.06

-353.06

BR 227

-352.25

-352.18

BR 267

-352.80

-352.78

BR 532

-353.46

-353.51

BR 875

-353.28

-353.30

BR 936

-352.42

-352.36

BOT 321

-353.13

-353.02

BOT 331

-352.87

-352.77

BOT 419

-353.47

-353.31

BOT 422

-353.16

-353.03

BOT 649

-352.92

-352.87

BOT 680

-353.62

-353.45

BOT 845

-352.86

-352.78

BOT 914

-352.97

-352.91

BL 111

353.58

353.53

BL 151

353.29

353.35

BL 298

354.01

354.03

BL 569

353.40

353.39

BL 595

353.66

353.58

BL 622

353.54

353.51

BL 854

353.73

353.73

BL 990

353.83

353.87

INSIDE EDGE OF CRYSTALS AT CENTER APERTURE

BL TOP

20.67

20.84

BR TOP

20.82

20.98

BR SIDE TOP

-20.51

-20.45

BR SIDE BOT

-20.57

-20.50

BR BOT

-20.91

-20.75

BL BOT

-20.94

-20.77

BL SIDE BOT

21.07

21.14

BL SIDE TOP

21.11

21.17