

Photon Runs

High Energy Gammas:

20 GeV e+

tagger magnet=42 kG-m

rate=30 pps

$\theta_Z = 0^\circ$ (use Beamzilla text display for angle and position readouts)

The little pictures are looking down on the tower from above (ie: the TV view)

$\theta_y = 0^\circ$ ($X_{\text{beamzilla}}=7.$, $Y_{\text{beamzilla}}=7.$)

Run number = **285,286,287,288,289** Top layers' Si in this corner

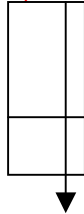
rad = 3%

e+/pulse = 1

time = 8 hours

$X_{\text{tracker front face}} = -7.$ cm

$Y_{\text{tracker front face}} = -7.$ cm



Run number = **290,292,294**

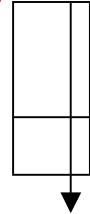
rad = 3%

e+/pulse = 3

time = 4 hours

$X_{\text{tracker front face}} = -7.$ cm

$Y_{\text{tracker front face}} = -7.$ cm



Run number = **298,299**

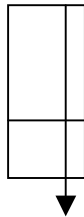
rad = 9%

e+/pulse = 1

time = 4 hours

$X_{\text{tracker front face}} = -7.$ cm

$Y_{\text{tracker front face}} = -7.$ cm



Run number = **300,302,305,308**

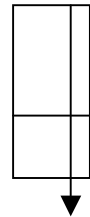
rad = 1%

e+/pulse = 1

time = 4 hours

$X_{\text{tracker front face}} = -7.$ cm

$Y_{\text{tracker front face}} = -7.$ cm



$\theta_y = +15^\circ$ (change $X_{\text{beamzilla}}$, $Y_{\text{beamzilla}}=7.$)

Run number = **309,311,312**

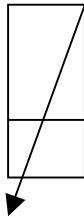
rad = 3%

e+/pulse = 1

time = 4 hours

$X_{\text{tracker front face}} = -16.$ cm

$Y_{\text{tracker front face}} = -7.$ cm



Run number = **no runs**

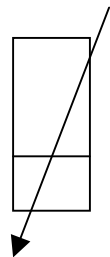
rad = 3%

e+/pulse = 1

time = 4 hours

$X_{\text{tracker rear face}} = 0.$ cm

$Y_{\text{tracker rear face}} = -7.$ cm



$\theta_y = +45^\circ$ (change $X_{\text{beamzilla}}$, $Y_{\text{beamzilla}}=7.$)

Run number = **324,325,326**

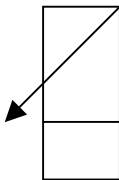
rad = 3%

e+/pulse = 1

time = 4 hours

$X_{\text{tracker front face}} = -16.$ cm

$Y_{\text{tracker front face}} = -7.$ cm



Run number = **328,329,330**

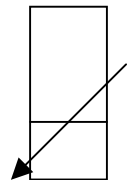
rad = 3%

e+/pulse = 1

time = 4 hours

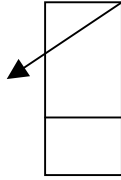
$X_{\text{tracker rear face}} = 0.$ cm

$Y_{\text{tracker rear face}} = -7.$ cm

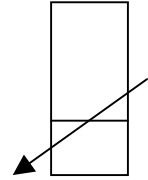


$\theta_y = +60^\circ$ (change $x_{\text{beamzilla}} , y_{\text{beamzilla}}=7.$)

Run number = **313,315,317** Top layers' Si in this corner
rad = 3%
e+/pulse = 1
time = 4 hours
 $X_{\text{tracker front face}} = -16. \text{ cm}$
 $Y_{\text{tracker front face}} = -7. \text{ cm}$

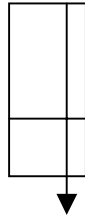


Run number = **319,320,321,322**
rad = 3%
e+/pulse = 1
time = 4 hours
 $X_{\text{tracker rear face}} = 0. \text{ cm}$
 $Y_{\text{tracker rear face}} = -7. \text{ cm}$



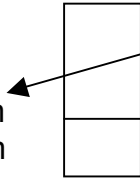
$\theta_y = 0^\circ$ ($x_{\text{beamzilla}}=7., y_{\text{beamzilla}}=7.$) (Radiator Target Out Run)

Run number = **331**
rad = 0%
e+/pulse = 1
time = 2 hours
 $X_{\text{tracker front face}} = -7. \text{ cm}$
 $Y_{\text{tracker front face}} = -7. \text{ cm}$

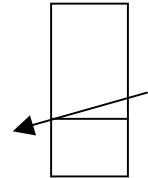


$\theta_y = +75^\circ$ (change $x_{\text{beamzilla}} , y_{\text{beamzilla}}=7.$)

Run number = **377,378,379**
rad = 3%
e+/pulse = 1
time = 4 hours
 $X_{\text{Tower -x face}} = -16.8 \text{ cm}$
 $Z_{\text{Tower -x face}} = 70.4 \text{ cm}$

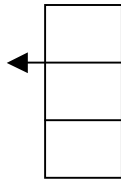


Run number = **no runs**
rad = 3%
e+/pulse = 1
time = 4 hours
 $X_{\text{tracker rear face}} = 16. \text{ cm}$
 $Y_{\text{tracker rear face}} = -7. \text{ cm}$

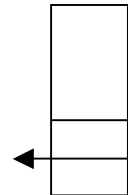


$\theta_y = +90^\circ$ (change $x_{\text{beamzilla}} , y_{\text{beamzilla}}=7.$)

Run number = **388,389,390** Adjust $x_{\text{beamzilla}}$ with a short e+ run so that the beam goes through edge of Si det and hits lots of strips on one layer.
rad = 3%
e+/pulse = 1
time = 4 hours
 $X_{\text{Tower -x face}} = -16.8 \text{ cm}$
 $Z_{\text{Tower -x face}} = 70.4 \text{ cm}$

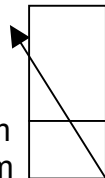


Run number = **393**
rad = 3%
e+/pulse = 1
time = 4 hours
 $X_{\text{Tower -x face}} = -16.8 \text{ cm}$
 $Z_{\text{Tower -x face}} = 27.6 \text{ cm}$



$\theta_y = +150^\circ$ (change $x_{\text{beamzilla}} , y_{\text{beamzilla}}=7.$)

Run number = **381,382,383**
rad = 3%
e+/pulse = 1
time = 4 hours
 $X_{\text{calorimeter rear face}} = -16. \text{ cm}$
 $Y_{\text{calorimeter rear face}} = -7. \text{ cm}$



$\theta_y = +180^\circ$ (change $x_{\text{beamzilla}}, y_{\text{beamzilla}}=7.$)

Run number = **384,385,386**

rad = 3%

e+/pulse = 1

time = 4 hours

$X_{\text{calorimeter rear face}} = 0.$ cm

$Y_{\text{calorimeter rear face}} = -7.$ cm



$\theta_y = +30^\circ$ (change $x_{\text{beamzilla}}, y_{\text{beamzilla}}=7.$)

Run number = **398,399,400**

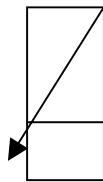
rad = 3%

e+/pulse = 1

time = 4 hours

$X_{\text{tracker front face}} = -16.$ cm

$Y_{\text{tracker front face}} = -7.$ cm



$\theta_y = \text{adjust}$ (adjust $x_{\text{beamzilla}}, y_{\text{beamzilla}}=7.$)

tagger magnet OFF (e+ run)

Run number = **395,396**

rad = 0%

e+/pulse = 1

time = 1 hour

in: $X_{\text{calorimeter front face}} = -16.$ cm

out: $X_{\text{calorimeter rear face}} = +16.$ cm



Tagger Magnet back ON (gamma run)

$\theta_y = 0^\circ$ ($x_{\text{beamzilla}}=7., y_{\text{beamzilla}}=7.$)

(Radiator Target Out)

Run number = **401**

rad = 0%

e+/pulse = 1

time = 2 hours

$X_{\text{tracker front face}} = -7.$ cm

$Y_{\text{tracker front face}} = -7.$ cm



(Radiator Target In – Lots of hours)

Run number **402,403,404,406**

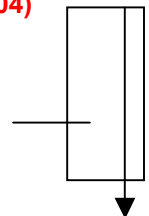
rad = 3% (**406**) 1%(**402,403,404**)

e+/pulse = 1

time = Until Thurs 8:00 AM

$X_{\text{tracker rear face}} = -7.$ cm

$Y_{\text{tracker rear face}} = -7.$ cm



“Twisted Photon Runs” $\theta_z = -45^\circ$

- Rotate and rebolt beamzilla (right hand rule, thumb along +z).
- Change θ_z in disp_beamzilla.f and recompile
- Twist the tower at 8:00 AM Thursday 12/23/99

High energy gammas at a diagonal angle ($y_{\text{beamzilla}}=0.$, change $x_{\text{beamzilla}}$ to >0 , change θ_y to >0)

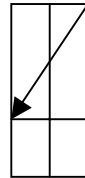
20 GeV e+
tagger magnet=42 kG-m
rate= 30 pps

Run number = **420,421,422,423**
rad = 3%
e+/pulse = 1
time = 4 hours
 $X_{\text{tracker front face}} = -16.$ cm
 $Y_{\text{tracker front face}} = -16.$ cm



$X_{\text{calorimeter rear face}} = +16.$ cm
 $Y_{\text{calorimeter rear face}} = +16.$ cm

Run number = **424,425**
rad = 3%
e+/pulse = 1
time = 4 hours
 $X_{\text{calorimeter front face}} = 0.$ cm
 $Y_{\text{calorimeter front face}} = 0.$ cm



28.7 deg

$X_{\text{tracker rear face}} = +0.$ cm
 $Y_{\text{tracker rear face}} = +0.$ cm

Tagger Magnet Off (e+ run)

Run number = **426,427**
rad = 0%
e+/pulse = 1
time = 1 hour
 $X_{\text{calorimeter front face}} = -16.$ cm
 $Y_{\text{calorimeter front face}} = -16.$ cm



$X_{\text{calorimeter rear face}} = +16.$ cm
 $Y_{\text{calorimeter rear face}} = +16.$ cm

Tracker self triggering on gammas

Run number = **418,419**
rad = 3%
e+/pulse = 1
time = 1 hour
 $X_{\text{tracker front face}} = -7$ cm
 $Y_{\text{tracker front face}} = -7$ cm