

Cosmic Ray Detector Lab 2 – Detector Coincidence

Name _____ Period _____ Date _____

Objective: Observe changes in the muon count as the number of the detector paddles change

Equipment: FermiLab Cosmic Ray Detector with four paddles

Computer with Hyper Terminal software or equivalent

Purdue Cosmic Ray Detector Program (for Hyper Terminal)

Auto-ranging Voltmeter

Procedure: Set the angle of the paddles at 45 degrees. Set all the potentiometers on the Power Distribution Box at the plateau values from Lab 1. Plug in and power up the Cosmic Ray Detector.

Set up the Purdue Cosmic Ray Detector Program so that:

Test Time is 10 minutes.

All boxes of the detector paddles are filled with a check mark.

Coincidence Level is 1.

Click the green “Go” button on the program.

Record your count in the data table.

Repeat the procedure for Coincidence Levels of 2, 3, and 4.

| Coincidence | 1 | 2 | 3 | 4 |
|-------------|---|---|---|---|
| Count | | | | |