



## PROJECT 2

### GROUP 9

#### TOPICAL LECTURES

# Setup



## Distance

- 67 cm between scintillators
- 45 degree orientation.
- Opening angle  $\approx 24$  deg.



## Calibration

- Tuned threshold : to have approx. equal count rate.
- Count rate checked for each individual scintillator and in coincidence.

Two configurations :  $W \rightarrow E$  and  $E \rightarrow W$

## Counts

|           | $N_1$ | $N_2$ | Counts/min           |
|-----------|-------|-------|----------------------|
| East      | 736   | 807   | $4.6879 \pm 0.16904$ |
| West      | 657   | 759   | $4.2932 \pm 0.16170$ |
| Time(min) | 152   | 178   |                      |

# Results and Conclusions

## Statistical uncertainties

- $A = \frac{f^W - f^E}{f^W + f^E}$
- $\sigma_A^2 = A^2 \left[ \frac{\sigma^2}{(f^W - f^E)^2} + \frac{\sigma^2}{(f^W + f^E)^2} \right]$
- $\sigma^2 = \sigma_{f^W}^2 + \sigma_{f^E}^2$

## Final results

- $A = -0.0439 \pm 0.0260$
- $P_{(A < 0)} \approx 0.95$

## Conclusions

- Excess from the East (or lack of experimental capabilities)