COSMIC RAYS

Weather vs. Muon Hits

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If the temperature outside, where the detectors are being held increases, this will have a negligible effect on the number of muon hits because the muons will need to fall to the earth’s surface regardless of their speed.
Procedure

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Data Analysis

- Pressure remained constant 1022 mmHg
- Temperature ranged from (263 K to 320K)
- Hits ranged from 3031 to 3276 hits
- Data was collected from 3:38 PM to 12:00 AM
y = -0.663x + 3319.7

$R^2 = 0.06004$

**Data - Temperature Effect**

**Hits as a Factor of Temperature**

- **Series1**
- Linear(Series1)

Temperature (K)

Twofold Hits (Hits/15 Minutes)
Analysis of Error

- Difference in length of wires
- Temperature/Pressure/GPS housing
  - Temperature Reader
- Background Noise
- Random Human Error
Improvements

- Longer period of data collection with a larger range of temperatures
- Better housing/Temperature reader
- More detectors with a greater variety of locations
According to the analysis of our data, we saw that as temperature increased, the number of hits decreased. However, we feel that we cannot make a valid conclusion of our data due to the nature of our data (time, location, variance, etc).