The Impacts of Cosmic Rays on Planetary Climate Change

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Amidst potential climate change conclusions and solutions, there are stellar influences on Earth's climate called cosmic rays, which heavily impact the formation of clouds; therefore, they are directly related to the total energy transferred from the Sun to the Earth's atmosphere. In this experiment, we observed cosmic rays that enter the atmosphere collected through global cosmic ray detectors, and one we assembled, to investigate their relationship with air ionization, cloud formation, and temperature. Data collected from the cosmic ray detection network, along with that of our own recorded data, will be analyzed in conjunction with global cloud coverage information sourced through satellites and then largely compared with planetary climate trends. The trends, if any, were investigated in our experiment. Through the analysis of local data, we did not find a significant trend between the concentration of muons in the atmosphere and cloud coverage.

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