Corrections	Replies
1. The abstract should fit in 8 lines. It should be written in a clear and understandable style, emphasizing the context, the problem(s) studied, the methods used, the results obtained, the conclusions reached, and the outlook.	We have revised the abstract to fit within 8 lines, making sure it clearly emphasizes the context, the problems studied, the methods used, the results obtained, the conclusions reached, and the outlook. We believe the revised abstract is now concise and aligns with the requested guidelines.
2. English must be improved. The reviewer strongly recommends having a native English speaker read through the paper to improve the English. Use the active voice in every sentence that focuses on the doer. Many passive sentences cloud the meaning of the sentences. The reviewer recommends using the active voice whenever possible. Sentences in the passive voice often use more words, can be vague, cloud the meaning and lead to a jumble of prepositions. The active voice emphasizes the subject, i.e. the person performing the action. In the passive voice, on the other hand, the action or the recipient of the action is emphasized.	We have carefully reviewed the manuscript and have made sure to use active voice wherever possible to enhance clarity and reduce ambiguity. Additionally, we have worked on improving the overall flow and readability of the text.
3. The authors must cite the figures as the source and give the name in all illustrations. For example: Credit AUTHOR (REFERENCE). Due to editorial rules and copyrights, citing sources (see References) and giving credit is necessary. It is best to use typical rules such as "modified by xxx(yyyy)" or "based on xxx (yyyy)", "Adapted from [reference to the original article], "with permission from [copyright holder]", or similar, depending on the context. Also, use Creative Commons Attribution 4.0 International (CC-BY-4.0) if appropriate. (	All figures in the manuscript are original and created by the authors. Therefore, there is no need to cite any external sources for the figures. We will ensure that the captions of all figures clearly indicate that they are created by the authors. We appreciate your suggestions and will make sure the captions are updated accordingly.

	https://creativecommons.org/licenses/by/4.0/). Besides, the labels in Figures 3 and 6 are tiny; authors must make them bigger.	
4.	The captions must be brief but comprehensive, but no shorter than in the manuscript. The reviewer suggests making them more descriptive. The caption should describe the data shown, draw attention to important features within the figure, and may sometimes include interpretations of the data.	We have already revised the figure captions to make them more descriptive while keeping them concise. The revised captions now better explain the data shown, highlight the important features in each figure, and, where needed, include interpretations. We hope the updated captions meet the expectations.
5.	Check and insert spaces between punctuation marks, such as the period and the next word. For example, check line121	We have thoroughly checked the manuscript and have corrected the spacing between punctuation marks, ensuring that there are appropriate spaces after periods and other punctuation throughout the document, including line 121. We appreciate your attention to detail.
6.	Insert a comma at the end of equations (1) and (2). Equations must be punctuated.	Thank you for the suggestion. We have inserted commas at the end of equations (1) and (2) and ensured proper punctuation for all equations in the manuscript.
7.	In line 97, the sentence: The kurtosis is the measure of "tailedness" of the probability distribution of a real-valued random variable. must be rephrased because plagiarism detection is based on the next source: Almaiah, M. A., Jalil, M. @. M. A., & Man, M. (2016). Empirical investigation to explore factors that achieve high quality of mobile learning system based on students' perspectives. https://doi.org/10.1016/j.jestch.2016.03.004	Thank you for pointing this out. We have rephrased the sentence in line 97 to avoid any potential plagiarism concerns while maintaining clarity and accuracy in the explanation of kurtosis.

8. In the conclusion section: -- The sentence "The results of the cosmic rays and atmospheric temperature data with a cosmic ray detector CARPET at San Juan, Argentina, 31 S, 69 W, 2550 m over sea level with geomagnetic rigidity cutoff RC 9.8 GV." must be rewritten as it appears to be a sentence fragment and is not clear. -- The sentence: "The detailed investigation will be presented in the coming future" needs to be rewritten because the plagiarism detection of: Matsuda, M., & Iino, M. (1969). The Solvent Effect on the Composition of Styrene Polysulfone. Macromolecules. https://doi.org/10.1021/ma60008a024	Thank you for the feedback. We have revised the sentence regarding the cosmic ray detector at San Juan to improve clarity and ensure it is grammatically complete. Additionally, we have reworded the sentence about future investigations to avoid any potential plagiarism concerns while maintaining its intended meaning.
9. Check for coherence when referring to figures and tables. The reviewer suggests using a Table, Figure, Section, and Equation words. For example, compare lines 113, 115 and 120; fig. 4, figure 5, Figure 6.	Thank you for the suggestion. We have standardized the references to figures, tables, sections, and equations throughout the manuscript to ensure consistency and coherence.

Edited Copy :

Passive Voice sentences

1. The dynamical state of space weather and atmospheric properties are encoded in the measured cosmic ray flux fluctuations."
2. The experiment is measuring real-time data with eight plastic scintillation detectors
3. These detectors have been operating since 2020...
4. The effect of solar phenomena on primary cosmic rays is being measured with different satellites all over the world.
5. The calibration method for finding the optimum operating voltage for the photomultiplier tubes (PMTs) are described along with their efficiencies.

6. The dependence of relative atmospheric pressure and atmospheric temperature on relative intensity has been analyzed.
7. The calibration plots of the observed counts of each detector vs the corresponding voltage applied to that photomultiplier tube is plotted.
8. The pulse height distribution of each detector is observed for different voltages of PMT.
9. Plateau characteristic is measured by keeping the paddle below the detector.
10. The coincidence counts for a small time window of 100 ns are observed by keeping a fixed gain voltage.
11. The applied voltage is varied from 1200 V to 1750 V to observe the plateau region
12. The response of organic scintillators to charged particles is governed by the Birks Law.
13. The output of the eight detectors is then sent to the nuclear electronics laboratory.
14. The signals are fed to a logic unit and counter unit.
15. The hourly atmospheric pressure and temperature are taken from the local weather data website.
16. The pulse shapes recorded on an oscilloscope have amplitudes varying from 30 mV to 80 mV.
17. The efficiency of four detectors is computed in Figure 2.
18. The secondary cosmic rays measured with ground-based arrays show temporal variations.
19. The main atmospheric effects are the pressure, relative humidity, and temperature.
20. The count rate for the eight detectors was observed hourly.
21. The skewness and kurtosis of the distributions are also presented.

22. The graph indicates that barometric pressure (in m bars) decreases with time fitting a straight line.
23. "The atmospheric temperature increases with time fitted linearly..."
24. "The atmospheric temperature also affects the flux of the cosmic ray detected at the ground arrays; this seasonal variation observes the maximum and minimum values..."
25. "The positive effect is related to the influence of temperature on the residual muon from the charge pion decays."
26. "The temperature coefficient is represented by..."
27. "It is observed from Figure 4, the relative intensity of secondary count rate falls..."
28. "The relative pressure graph shows a negative effect..."

These line are written in Active Voice

The measured cosmic ray flux fluctuations encode the dynamical state of space weather and atmospheric properties.

DEASA, which stands for Dayalbagh Educational Air Shower Array, is conducting an educational experiment to study cosmic rays.

The experiment collects real-time data using eight plastic scintillation detectors spread over an area of 260 sq.m. at the Faculty of Science, Dayalbagh Educational Institute, Agra.

These detectors have operated since 2020 to promote astroparticle physics among students through various studies, including long time series data that correlate cosmic rays, climate science, and space weather.

In this work, we demonstrate the beautiful symmetry between the detector counts and atmospheric parameters.

The Sun’s effects on the terrestrial magnetic field disturb Earth's atmospheric parameters, causing fluctuations in cosmic ray intensities.

Satellites worldwide measure the effect of solar phenomena on primary cosmic rays.

India has stationed the Aditya-L1 spacecraft to orbit the Sun.

The solar wind, with its strong stream of particles and magnetic field, influences the flux of primary cosmic rays.

Gamma and neutrinos, as neutral particles, travel in straight paths through galactic and intergalactic space, pointing to their energetic sources.

Charged particles experience irregular magnetic fields in their path, leading to a total change in direction relative to their accelerating sources.

Observations confirm an anisotropy for charged particles, measured at less than 0.5%.

Solar events influence the primary cosmic rays entering our atmosphere, which subsequently impact global climate and weather.

To study cosmic-ray variations, we must remove atmospheric effects from the ground array data.

Initial studies identify variations in counts with atmospheric pressure and temperature.

In Section 2, we describe the calibration method for finding the optimum operating voltage for the photomultiplier tubes (PMTs) and their efficiencies.

In Section 3, we plot graphs of atmospheric pressure and temperature against the detector counts for the entire period.

In Section 4, we perform linear regression analysis for relative pressure and temperature.

We analyze the dependence of relative atmospheric pressure and temperature on relative intensity.

Every six months, we calibrate the DEASA detectors to assess the performance of all eight detectors, which are 100 cm × 100 cm × 2 cm plastic scintillators.

Photomultiplier tubes (number 9807B) view the scintillators, positioned 65 cm above each detector inside the rain-weather cover, as shown in Figure 1.

During the data period, the operating voltages of the detectors varied from 1570 to 1630 V.

We plotted the calibration graphs of the observed counts of each detector against the corresponding voltage applied to the photomultiplier tube.

We observed the pulse height distribution of each detector at different PMT voltages.

The counts increased with voltage and then stabilized at the start of the plateau, indicating the detector's optimum operating voltage.

We measured the plateau characteristic by placing the paddle below the detector to observe the minimum ionizing particles passing through both detectors.

We observed the coincidence counts for a small 100 ns time window by keeping a fixed gain voltage for the prototype detector below the DEASA detectors.

We varied the applied voltage from 1200 V to 1750 V to identify the plateau region where the coincidence counts remained independent and stable.

We enclosed both the detector and PMT in a light aluminum cover along with a weather cover.

We sent the output of the eight detectors to the nuclear electronics laboratory, where we amplified the PMT signal and fed it to a discriminator to filter out background noise.

We routed the signals to a logic unit and counter unit in the Nuclear Instrumentation Module (NIM) to collect detector counts for predefined times, as shown in Figure 1.

We recorded the pulse shapes on an oscilloscope, showing amplitudes ranging from 30 mV to 80 mV for all eight detectors.

Preliminary results indicate varying performance among the eight detectors.

We computed the efficiency of four detectors, as shown in Figure 2.

During the stated period, the efficiency values for detectors D1, D2, D3, D4, D5, D6, D7, and D8 were 0.85, 0.78, 0.65, 0.76, 0.84, 0.89, 0.95, and 0.75, respectively.

Ground-based arrays measuring secondary cosmic rays detect temporal variations due to atmospheric fluctuations.

The main atmospheric effects on ground detectors are pressure, relative humidity, and temperature.

We observed the hourly count rate for the eight detectors from 10 am to 5 pm every day from January 2022 to July 2022.

The graph (Figure 3) indicates that barometric pressure (in mbar) decreased with time, fitting a straight line with a slope of -0.12 from January to July 2022.

The atmospheric temperature increased with time, with a linear fit showing a slope of 0.13 from January to July 2022.

We analyzed the pressure effect on secondary cosmic rays using the equation: $\Delta I/I = \beta\Delta P$.

We observed that the relative intensity of the secondary count rate fell from January to July 2022,