

Authors reply:

Dear Reviewers,

Thank you very much for your comments. We have improved the paper based on your suggestions, addressing the potential ambiguities affecting the submission.

In the following section, we report our responses to the reviewer comments.

Reviewer comments:

In generale, il revisore scrive un paragrafo riassuntivo in cui segnala i propri commenti generali sul valore del lavoro esaminato. Successivamente, il revisore scende nei particolari delle varie sezioni in cui il testo è diviso e termina con un giudizio positivo (suggerendo all'editore di accettare il lavoro proposto), negativo (suggerendo all'editore di rifiutare il lavoro proposto) o intermedio (suggerendo all'editore di attendere che l'autore sottometta una nuova versione del testo contenente le correzioni suggerite prima di accettarlo o rifiutarlo).

General overview

It can be concluded that the report provides a good summary of the activities carried out during the ICD day because...

The report provides a comprehensive treatment of the theory that describes the cosmic rays flux on the Earth and...

The description of the detector is clear and...

We raise some objections regarding the description of the setup measurement because...

The results are demonstrated by well-compiled tables, well-designed figures and...

We agree/disagree with the final remarks and...

The reported bibliography allows the reader to delve deeper into the covered topics (or can be enriched with other entries to allow the reader to study the subject in greater depth because...).

In conclusion, we raise no objections with respect to the submission of this report (or we raise some objections with respect to the submission of this report because..., or we recommend a complete revision of this report because...).

Thank you very much for your detailed introduction and positive feedback (or suggestions) regarding the submission of this report.

Additional comments and suggestions

Successivamente, il revisore propone la correzione di alcuni errori o frasi che ritiene inesatte o male espresse indicando la riga in cui ritrovarle nella bozza consegnata. Proponiamo di seguito alcuni esempi.

Mancanza di dati richiesti:

Line 3: the authors forgot to indicate the email address of the corresponding author.

Thank you for this comment. We have added the requested data to the text in line 3.

Errore di battitura:

Line 5: “Muography is ...” instead of “Muodraphy is...”.

Thank you for this comment. We have corrected the reported typo in line 5.

Errore di lingua inglese:

Line 7: “Cosmic rays are generally defined as...” instead of “Cosmic rays is generally defined as...”.

Thank you for this comment. We have corrected the text in line 7.

Incoerenza nell'utilizzo della lingua inglese (British English vs. American English):

Line 8: “We realise that...” instead of “We realize that...”. In fact, in line 4 the verbal form ‘to realise’ was used: please therefore make a choice between American English and British English and draft the whole document consistently.

Thank you for this comment. We have rewritten the whole text using British English.

Formula errata:

Line 10: there is a mistake in Formula 5.3, where the average acceleration \mathbf{a} over a period of time Δt of a point is described as its change in velocity $\Delta \mathbf{v}$ divided by the duration of the period: please change $\bar{a} = \frac{\Delta t}{\Delta v}$ with $\bar{a} = \frac{\Delta v}{\Delta t}$.

Thank you for this comment. We have corrected the Formula 5.3 in line 10.

Tabella o Figura senza descrizione:

Line 23: Figure 2 has not caption, please add it.

Thank you for this comment. We have added a caption to the Figure 2.

Manca di chiarezza nel testo:

Line 30: the sentence “the other errors related to the measurement are small and then we can neglect them” is not clear. I mean: what other errors have you considered and how small are they compared to the estimated error, in order to neglect them?

Thank you very much for pointing this out. We have added a sentence in the text that explains why other errors are neglected compared to the estimated one.

Necessità di aggiunta di una referenza in bibliografia:

Line 35: Please add the reference

[2] L.W. Alvarez, et al., “Search for hidden chambers in the pyramids”, *Science*, 167 (1970), p. 832

to the bibliography section and correct “The first application in archaeology came in the 1960s, by a team led by Alvarez.” with “The first application in archaeology came in the 1960s, by a team led by Alvarez [2].”

Thank you for this comment. We have added this reference to the bibliography.

Correzione di una frase ritenuta errata:

Line 37: “Nuclear reactors can be imaged with muons” instead of “Nuclear reactors can be imaged with atmospheric muons”.

Thank you for this comment but we disagree with it: in fact, the muons that we exploit for imaging are called “atmospheric” because they originate within the atmosphere of our planet (typically 15 km above the sea level), or “cosmic” because of their origin.