Ok ya tenemos respuesta. Me parece que está fácil y no hay que sacar nuevas cuentas. Lo cual me parece bien porque no quiero simular más. Sin embargo hay que escribir decente y muy bien algunas cosas que piden. Podemos reunirnos cuando quieras.
David.

---------- Forwarded message ---------
De: Gaetano Festa <gaetano.festa@unina.it>
Date: jue., 12 de diciembre de 2019 12:30
Subject: [AG] Request for major revisions
To: David Sierra Porta <david.sierra1@correo.uis.edu.co>
Cc: David Sierra Porta <sierraporta@gmail.com>

Dear David Sierra Porta,

I apologize for the delay, but we were not able to recover the comments from one reviwers. However, the other reviewer has read the paper "Muon Tomography sites for Colombian volcanoes".The
comments are attached, suggesting major revisions. I fully agree with the reviewer. Please login on the www.annalsofgeophysics.eu with username and password to read and download additional comments if the reviewers archived them on the website.
Please, prepare a revised version of your manuscript addressing all the questions raised by the Reviewers and the A.E. This will be considered for publication after a second round of revision.

Regards,
Sector Editor

NB
Please inform us if you exceptionally need some more time to make your revisions. Otherwise, if we don't receive your paper new revised version within 4 months from now, we will automatically consider your submission expired.

Reviewer C:

Review of the article:

Muon Tomography sites for Colombian volcanoes"

The article concerns feasibility studies of muon radiography applied to active volcanoes in Colombia. The expected muon flux from 13 different volcanoes was evaluated using Monte Carlo methods and statistical analysis was applied to evaluate the time needed for a measurement. According to these results and considering other criteria, as logistic and safeness , possible candidates of the measurement were proposed. The study was based considering a detector with two plastic scintillator plates with a water Cherenkov detector.

In my opinion the paper is of interest since gives a prospective on the study of volcanoes in Colombia by the use of muon radiography.

The methodology applied is the standard in use for this kind of applications, but two main issues are, in my opinion, to be revisited together with other minor suggestions that are reported below.

First main issue: background, especially from “forward scattered muons” is not well described and no quantitative analysis is performed. The statement at lines 273-276 is not clear (It is the forward component from the volcano direction that has been considered? How it was estimated?)

Second main issue: the section “4.1 instrument” is not very clear (also if citations to article in press are reported). In particular the contribution of the Water Cherenkov Detector (WCD) is not clear and statements as the one reported at the lines 267-268 are not supported by numerical data (energy cuts for the different particles and their expected contributions).

It should be mentioned that the forward muon background coming from the volcano as been recently spotted as one of the main component of the background. The WCD contribution to its suppression is not considered and probably it is poor, so that other possible technologies should be considered).

Since quantitative estimations of all the background components is not a very easy task (also if not impossible) my suggestion is to mention (correctly) these effects as possible causes of contamination of the signal that have to be considered in future for a real application on the field. The present study doesn’t give the possibility to estimate correctly the amount of background expected in real experiments, and gives only statistical estimations of the muon signal flux.

Other minor suggestions are the following:

Lines 18 and 45: the word “background” is misleading

Lines 237-238: also Ring Image Cherenkov detectors have been proposed (see ASTRI project)

Line 251: mistyping ?

Line 280_: mistyping ?

Line 303: 882 mrad -> srad ?

Line 344: the definition of maximum depth is given in table 1 but not in the text

Line 365: mistyping ?

Line 417: mistyping ?

Line 502-508: Explain better: almost horizontal muons have fluxes greater than the vertical component after crossing about 1000 m of rock since their high energy component (>100 GeV)is greater.

All the figure in my paper are of very bad quality.

Bibliography can be enlarged mentioning more experiments that are involved in muography of volcanoes.
