

Interactive comment on “Towards a muon radiography of the Puy de Dôme” by C. Cârloganu et al.

Anonymous Referee #1

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The paper describes the status and the future development of the TOMUVOL project. It is well written and the description of the technical aspects and of the data analysis is clear, complete and well organized. It should be published after the authors take into account some minor corrections.

In addition I have a couple of questions/comments which are not directly connected to the publication of this report. They are only a suggestion for possible items to include in future analyses.

Suggested minor corrections : Pag. 766, Line 1 and Line 17: above 100 GeV→ above a few hundred GeV Pag. 766, Line 14: remove "While" Pag. 769, Line 1: I.Latineh- → I.Latineh Pag. 770, Line 22 : I would say "The description of the muon detector..." Pag. 771, Line 11 : to contain→ to keep Pag. 773, Line 13: from→ for Pag. 774, Line 4 :
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We report Pag. 774, Line 13: In my opinion it is not clear whether the deployment will start in 2013 or at the beginning of 2013. Better to write it more clearly.

After that the paper can be published, in my opinion.

Here are my additional questions: the authors speak of the background contamination due to bad reconstructed tracks and to backscattered particles coming from downgoing showers. Did they evaluate quantitatively these contributions? More, did they consider the possible effect due to backscattered particles produced in inelastic interactions of high energy particles with the rock ? There is a paper by the MACRO Collaboration (I am not informed about more recent papers) : M. Ambrosio et al., *Astrop. Phys.* 9(1998) 105 discussing this topic. I attach the pdf in case the authors are interested.

Please also note the supplement to this comment:

<http://www.geosci-instrum-method-data-syst-discuss.net/2/C249/2012/gid-2-C249-2012-supplement.pdf>

Interactive comment on Geosci. Instrum. Method. Data Syst. Discuss., 2, 765, 2012.