

## ***Interactive comment on “Implementation of a 3-D-Var system for atmospheric profiling data assimilation into the RAMS model: initial results” by S. Federico***

**Anonymous Referee #1**

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Implementation of a 3D-Var data assimilation system in the RAMS model: initial results  
by S. Federico

General Comments

This paper presents a newly developed 3D-VAR system for RAMS model. An application to assimilation of wind profiler data is presented. The topic is relevant by both theoretical and observative point of view, but to better fit the scope of the ATM journal the author should add a section to present the measurements and the wind profiler. I noticed that several paragraphs are self citations of a previous paper (Federico, S.,

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2013) where the preliminary results of the 2D version is presented; this is strongly discouraged. I believe that an accurate review for a newly developed assimilation technique for wind profiler should be performed by a journal dedicated to this subject before accepting for publication in ATM. I would suggest to send the paper for a further review to a developer of assimilation techniques - I will be glad to suggest some name by private communication to the editor.

Specific comments:

- 1) pag 3584 from line 2 to the end of the page: The author describes the main features of the data assimilation system into the introduction, I would strongly suggest to move this part into section 2 and leave only a brief description.
- 2) A section dedicated to the European wind profiler network, with a figure showing their location would help the reader to understand the results. Moreover, a description of the instruments is necessary.
- 3) Section 3 is dedicated to the experiment set up, but it is not clearly explained where/which are the observations over the domain and which of them are used for the assimilation and/or the verification. This should be stated clearly (figure 4 is not clear).

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Interactive comment on Atmos. Meas. Tech. Discuss., 6, 3581, 2013.

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