

Interactive comment on “Comparison between manual scaling and Autoscala automatic scaling applied to Sodankylä Geophysical Observatory ionograms” by C.-F. Enell et al.

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This paper provides an interesting and useful comparison of an automated scaling method with manual scaling of ionogram data. Further quantitative comparisons like this should be done between the commonly used scaling methods. The paper deserves to be published. There are some minor points which I would like to comment on:

P.522, line 17: I think the main factors causing differences is the echo selection technique (this may come under the term 'scaling method') which depends much on how noise and interference is rejected. The radio pulse scheme itself should not be the cause of the differences.

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Section 3.1. Most of the scaled parameters are understandable to a non-specialist in ionosonde scaling, and they are shown as horizontal or vertical lines in the ionograms shown. M(3000)F2, however, is somewhat more cryptic. I wonder if a short explanation could be given of how it is obtained from the ionogram ?

Figure 1. The curved arrow at the right going from the INGV WWW server to the realtime processing computer touches another arrow. Is this deliberate, i.e. does it mean a splitting of the arrows ? If not they should be redrawn so as not to touch.

Figure 2. I am surprised that there are so many spurious echoes looking like noise in the lower panel showing the input to Autoscala. The original ionogram does not seem to show such spurious echoes although they may simply not be visible. It seems that the echo detection and transfer algorithm could be improved.

Table 1. It is interesting that the autoscaling found many more foE values than manual scaling, and the values seem not too bad. Has some checking been done afterwards to see if the automatic values are realistic and that the manual scaler really has missed or too critically rejected a valid trace ?

p.531, line 8: A single oblique echo would not show up as spread echoes. This would only happen with multiple oblique echoes from different ranges. So I think "Multiple" should be added before "oblique".

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