**Atmospheric
Chemistry
and Physics
Discussions**

Interactive
Comment

Interactive comment on "**Automated thunderstorm tracking: utilization of three-dimensional lightning- and radar data**" *by* V. K. Meyer et al.

Anonymous Referee #1

Received and published: 22 March 2013

Congratulation to the well prepared and organized manuscript.

The paper is worth to publish when only few papers are dealing with combination of tracking algorithm.

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MINOR Comments:

- title should be changed, when the topic of the paper is tracking only. By including "Nowcasting" in the title the interested reader is waiting for examples and detailed verification

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line58: previous studies as Steinacker et al., used lightning data only for tracking

line 85: examples of those stroke parameters would be helpful

line 370: see recommendation for title as nowcasting is not in the focus of the present study

line 427: Fig. 4b/c show displacement in IC/CG to reflectivity (reflectivity more eastern of TL cluster). Do you have any explanation for that? LINET data +/-2 min, IC aloft of updraft?

line 540-555: As you mentioned – very small effect

line 563: en-tries?

line 577: Do you have any explanation for the 4% start to pure lightning-cell. Not covered radar areas?

line 622: no new paragraph

line 725: Are there significant differences in the position of Cb-tram contours in comparison to ec-tram. Do you have analyzed the mean differences of cell-areas of li na rad tram as well as mean difference vector in the location.

Fig.1: differences in white contour to yellow areas?

Fig.5: is one of the main figures of the paper. Hopefully the image will be presented large enough. Other possibility would be to split the image into 3x3 panels for detailed comparison of ec-li tram in first line, ec-rad tram in second line and CG/IC in third line. Time steps as presented in 3 col.

Fig.7: a is left hand side and b is right hand side. Give a note as in other figures.

Fig.9: IC height percentiles not found. Define cloud top and overshooting top height estimation in more detail.

Fig.10: horizontal scale is missing (but available in Fig.4a)

Other relevant references:

Meteorology and Atmospheric Physics

February 2000, Volume 72, Issue 2-4, pp 101-110

Automatic Tracking of Convective Cells and Cell Complexes from Lightning and Radar Data

Steinacker et al.

Applied Meteorology and Climatology, 2012

Development and Application of a Satellite-based Convective Cloud Object-Tracking Methodology: A Multipurpose Data Fusion Tool

Sieglaff et al.,

Interactive comment on Atmos. Chem. Phys. Discuss., 13, 2179, 2013.

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