

## ***Interactive comment on “Automatic segmentation and classification of seven-segment display digits on auroral images” by T. Savolainen et al.***

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Received and published: 26 February 2016

We thank the referee for encouraging comments and bringing up the ambiguity in our description of the continuity of the image data.

We want to clarify that the uninterrupted time series of 25 years refers to seasonal continuity only, i.e. that there are images taken every winter, although in shorter time scales (hours, days) the data is sparse. Correspondingly, the sentence on the page 3 line 4 has been modified to: The key features are the roughly continuous imaging at a few Lapland stations: Kevo, Kilpisjärvi, Muonio and Sodankylä which together provide an almost uninterrupted time series of auroral observations for 25 years in seasonal sense.

Although the initial cadence of film camera images is one minute, the nature of auroral

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image data is not continuous due to days and summers interrupting the imaging. The manually examined data for estimating the false positive rate of the binary classification algorithm indicated that there are discontinuities on time scales of hours, days and months. A human expert can easily bridge small data gaps but from the algorithm point of view no assumptions can be made on the continuity of the data. The sentence on the page 3 line 22 has been modified to: Since our data set is unlabelled and unsorted, no assumptions can be made on the continuity of the data. The manually examined data for estimating the false positive rate of the binary classification algorithm also indicated that there are discontinuities on time scales of hours, days and months. Therefore feature tracking methods common in video processing are not feasible.

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Interactive comment on Geosci. Instrum. Method. Data Syst. Discuss., doi:10.5194/gi-2015-28, 2016.

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