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Atmospheric Measurement Techniques Discussions

Interactive comment on "A method for cloud detection and opacity classification based on ground based sky imagery" *by* M. S. Ghonima et al.

Anonymous Referee #1

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This paper is very interesting. Authors give details about cloud detection and opacity classification to be applied to hemispheric sky images provided by total sky imagers (TSI). This cloud detection corresponds to a very important stage for very short solar forecasting based on such imagers.

This paper is a very interesting complement the article they published, more focused on the forecast performance (C. W. Chow et al., "Intra-hour forecasting with a total sky imager at the UC San Diego solar energy testbed," Solar Energy, vol. 85, no. 11, pp. 2881-2893, Nov. 2011). In this paper, pixel classification is the object of one sub-

section and this new paper is welcome to have precision of the crucial stage of the TSI-based forecast processing.

The only comment I have is about the limited choice of sky images (30 min around solar noon) for validation. I wonder if this limited validation data set is enough to draw very significant conclusion. Effects of solar zenith angles on cloud detection and opacity classification should no be negligible. Author should have a discussion on that point. Moreover no details are given about the reliability of the manual classification used as reference for the validation (methodology, cross-check of human operators, etc.).

Interactive comment on Atmos. Meas. Tech. Discuss., 5, 4535, 2012.