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Interactive comment on “High resolution (375 m) cloud microstructure as seen from the NPP/VIIRS Satellite imager” by D. Rosenfeld et al.

Anonymous Referee #2

Received and published: 15 January 2014

General comments: This paper presents and evaluates a methodology for retrieving cloud drop effective radius from the high resolution of the VIIRS imager and compares with MODIS. Several examples are shown in varying environments and events for retrieving cloud drop effective radius. The authors do an excellent job detailing the methodology for the retrieval of cloud drop effective radius and also in showing a spectrum of cases. The improved cloud drop effective radius retrievals from the higher spatial resolution of VIIRS compared to MODIS is clearly shown. Specific comments: Page 29846, line 20: Change "much" to "significantly". Page 29849, line 1: Change "the height" to "height". Page 29851, line 27: Change ", say," to "a". Page 29852, line 24: Change "match best the cloud base temperature as" to "match the cloud base temperature best as". Page 29853, line 13: Change "calculated when" to "calculated".

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Page 29853, line 20: "Change "surface temperature" to "surface temperature,". Page 29853, line 27: Change "is be obtained" to "is obtained". Page 29854, lines 14-16: This sentence is unclear, please reword. Page 29854, line 25: Change "selected for as similar" to "selected for the most similar". Page 29855, line 16: Change "are nearly same" to "are nearly the same". Page 29855, line 20: Change "in lines" to "in line". Page 29856, line 8: Change "is however, not" to "is, however, not". Page 29857, line 8: Change "out the" to "out of the". Page 29857, line 9: Change "out the" to "out of the". Page 29858, lines 15-16: Change "eastward and so extended the area of polluted clouds to that direction." to "eastward extending the area of polluted clouds in that direction." Page 29858, line 24: Change "partly covered" to "partly covered by". Page 29859, line 12: Change "downwind the" to "downwind of the". Page 29859, line 26: Change "they way" to "the way". Page 29860, line 5: Change "pristine clouds, smoky" to "pristine clouds to". Page 29860, line 25: Change "based in" to "based on". Page 29861, line 9: Change "re" to r subscript e for denoting cloud drop effective radius symbol. Page 29861, line 11: Change "aerosols effects" to "aerosols effect". Page 29861, line 27: Change "from an" to "from". Page 29862, line 12: Change "clouds in" to "clouds". Page 29862, line 24: Change "were hitherto" to "were". Page 29863, line 6: Change "composedq of much-reduced" to "composed of significantly reduced". Page 29863, line 9: Change "This VIIRS" to "VIIRS". Page 29863, line 10: Change "microphysical retrievals. This is" to "microphysical retrievals and is". Page 29864, lines 8-10: Change to "VIIRS can supply significantly more full-cloudy pixels in the small boundary layer convective elements, reduced uncertainty in determination of the cloud base, and a better cloud mask....". Page 29869 in Table 2 under Location column, spelling error, change "Huston" to "Houston". Page 29874 in Figure 5 Caption, line 3, Change "Note that the VIIRS" to "Note that VIIRS" and line 4, Change "whereas the MODIS" to "whereas MODIS". Page 29875 in Figure 6 Caption, line 5, Change "are shown Fig. 7" to "are shown in Fig. 7". Page 29886 in Figure 17 Caption, line 4, spelling error, change "Manus" to "Manaus". Page 29891 in Figure 22 Caption, line 2, Change "Sown" to "Shown". Page 29892 in Figure 23 Caption, line 7, Change "appears as light

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blue" to "appears as a light blue". Page 29893 in Figure 24 Caption, line 6, Change "the VIIRS" to "VIIRS".

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