

Review of the revised paper “Improved cloud detection for the Aura Microwave Limb Sounder: Training an artificial neural network on colocated MLS and Aqua-MODIS data” by Frank Werner et al.

General comments

This revised paper nicely illustrates that the implementation of machine learning to MLS cloud classification leads to an impressive improvement in MLS cloud detection, compared to current operational techniques.

The authors have responded admirably to the comments written in the first review. The revised paper reads very well, and only minor suggestions are contained in this second review.

The paper should be published following very minor suggested changes and clarifications.

Very minor suggestions

Line 34. For some reason my copy of the paper has “Di Girolamo” outside of the right block margin.

Line 81 change to “four example scenes”

After equation (3) identify ω as a weight. Though the symbol is identified in Figure 1, as a reader I personally like to have symbols identified (and defined) also in the main text the first time they are encountered in the text.

Line 145 replace “These values” with specifically named symbols.

Line 265-269 I stumbled over the band counting in the current text. Should “three different bands” be replaced by “nine different bands”? The use of “For most of the ten bands” (instead of “For most bands” on lines 268-269) would clearly tell the reader that a total of ten bands are utilized.