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Interactive comment on "Comparison of Global Datasets of Sodium Densities in the Mesosphere and Lower Thermosphere from GOMOS, SCIAMACHY and OSIRIS Measurements and WACCM Model Simulations from 2008 to 2012" *by* Martin P. Langowski et al.

Anonymous Referee #2

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The authors compare global measurements of the mesospheric Na layer made by the satellite instruments GOMOS, SCIAMACHY and OSIRIS/Odin and modeled by WACCM-Na. The results show that the various instruments and model generally agree on the dominant geographic and seasonal variations of the Na abundance, centroid height and layer width. The most significant descrepancy is the centroid altitude as modeled by WACCM-Na which is 2-4 km lower than the satellite observations. But this issue and its probably cause had been pointed out previously by several of the

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Discussion paper

authors when they compared WACCM-Na with lidar measurements. The paper is reasonably well-written and adequately referenced. However, the satellite measurements and WACCM-Na predictions are generally consistent with ground based lidar observations of Na made at a wide variety of latitudes, including polar latitudes. Thus the results, while interesting from the perspective of confirming that the satellite measurements are consistent with each other, do not reveal any significant new science. Even so, I think this comparison is worthy of publication AMT.

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