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Interactive comment on "Development of high-resolution Thermosphere–Ionosphere Electrodynamics General Circulation Model (TIE-GCM) using Ring Average technique" *by* Tong Dang et al.

Tong Dang et al.

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This paper addresses means of overcoming the problems introduced by the small cell size near the poles when solving equations numerically on a spherical grid. It describes a solution using the Ring Average technique which is then illustrated using a widely used upper atmosphere community model, the TIE-GCM. The authors show that the Ring Average technique allows the TIE-GCM to be run at significantly higher spatial resolution without increasing computational costs significantly or introducing numerical artifacts that other methods do. I found the paper to be clear and well written.

Printer-friendly version

Discussion paper

I recommend publication after correction of some minor errors and typos.

Response: Thanks very much for your thoughtful and positive comments.

Minor errors: Line 305: should read “continuity equation” Line 331: replace “transportation” with “transport” Line 349: delete “a” Line 398: “major” is mistyped Line 401: “Figure 6a” and “Figure 6b” – remove the “s” Line 479: “resolution” is mistyped.

Response: We corrected the English errors as suggested.

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