

Interactive comment on “Mesospheric turbulence during PMWE-conductive conditions” by C. M. Hall et al.

Anonymous Referee #1

Received and published: 24 July 2007

Comments:

Based on a diverse dataset that includes data from an MF radar, the authors investigate the existence of a connection between enhanced mesospheric turbulent kinetic energy dissipation rate, the appearance of “PMWE-conductive conditions” (as indicated by what the authors refer to as “isolated lower mesospheric echoes,” or ILME), and proton precipitation events in the mesosphere. It appears that the main result of the paper is contained in the following two sentences: “We fail to find evidence for causal relationship between ILME and turbulence but suggest that on occasion turbulence may be enhanced related to precipitation” (Abstract) and “... large proton fluxes indeed appear to coincide with turbulent energy dissipation rates in excess of monthly averages” (Conclusions). – These statements, and many others in the paper, are vague,

speculative, and not quantitative. There is not a single equation in the entire paper. The method of estimating energy dissipation rates from MF radar data is not clearly explained and its validity is not substantiated. Systematic and statistical measurement errors are not quantified. The observational material as presented is not accessible to a quantitative analysis.

Recommendation:

The paper does not contain clear and convincing results and should not be published.

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 7035, 2007.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper