

Interactive comment on “Stationary planetary wave propagation in Northern Hemisphere winter – climatological analysis of the refractive index” by Q. Li et al.

Anonymous Referee #5

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The manuscript by Li et al introduces the PDF of the negative refractive index squared as a diagnostic tool for the propagation characteristics of the mean state. In my opinion, diagnostics is novel and the paper merrits to be published with minor revisions:

- 1) Please provide statistical tests for the significance of differences between the strong and weak polar vortex composites in figures 6 to 9. 1) Discussion of figure 9. The findings should be compared to the paper of Hartmann et al. 2000 in PNAS.
- 2). page 9050, line 5-6: Perlwitz and Harnik (2003) found reflection for wave number 1, when the vertical shear of the zonal mean wind in the mid-stratosphere is negative, not because of a strong stratospheric polar vortex there. Therefore, the statement made in

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this manuscript is not correct.

3) In Figure 10 and 11, scattergrams are shown. A better way of illustrating this feature would be a two-dimensional histograms. In any case, I would not call this study a correlation analysis because correlation coefficients are not determined. The correlation coefficient will be small for each of the sub figures.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 9033, 2006.

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