Atmos. Chem. Phys. Discuss., 5, S2687–S2688, 2005
www.atmos-chem-phys.org/acpd/5/S2687/
European Geosciences Union

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Transport Modelling of a pyro-convection event in Alaska" *by* R. Damoah et al.

Anonymous Referee #2

Received and published: 18 September 2005

General comments:

This paper deals with a case study of a pyro-convection event that occurred in Alaska in June 2004. The authors first describe climatological aspects of fires initiated by lightning in Alaska, and show that smoke plumes (possibly with huge amount of aerosol and pollutants) are transported to the UT/LS region with the use of satellite and lidar data. The lagrangian transport model that the authors use (with conventive scheme) well reproduce enhancement in the UT/LS observed, and thus suggest that (pyro-)convention is a key mechanism to explain the features observed. I enjoyed reading the manuscript very much, and suggest only minor points that the authors might consider for revision.

Specific comments:

It seems to me that pyro-conventive events linked to forest fires have mainly been reported and studied over the North America. What about over the boreal forest regions in Siberia? Do the similar events happen? If not, what is the main cause for the difference? I think some implications for whole boreal regions (not only case study in Alaska) would make the authors' discussion more interesting.

I do not think Figure 8 is necessary; Figure 9 is enough to explain what the authors would like to mention.

Technical corrections:

page 6187, line 2: Novelli et al., "2005" should be "2003"

line 14: "thence" should be "hence"?

It is still difficult to identify legends and titles in some figures (e.g., Figure 3, 7, 9, 10, 11, 12). Better artwork will make the paper more attractive to readers.

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 6185, 2005.