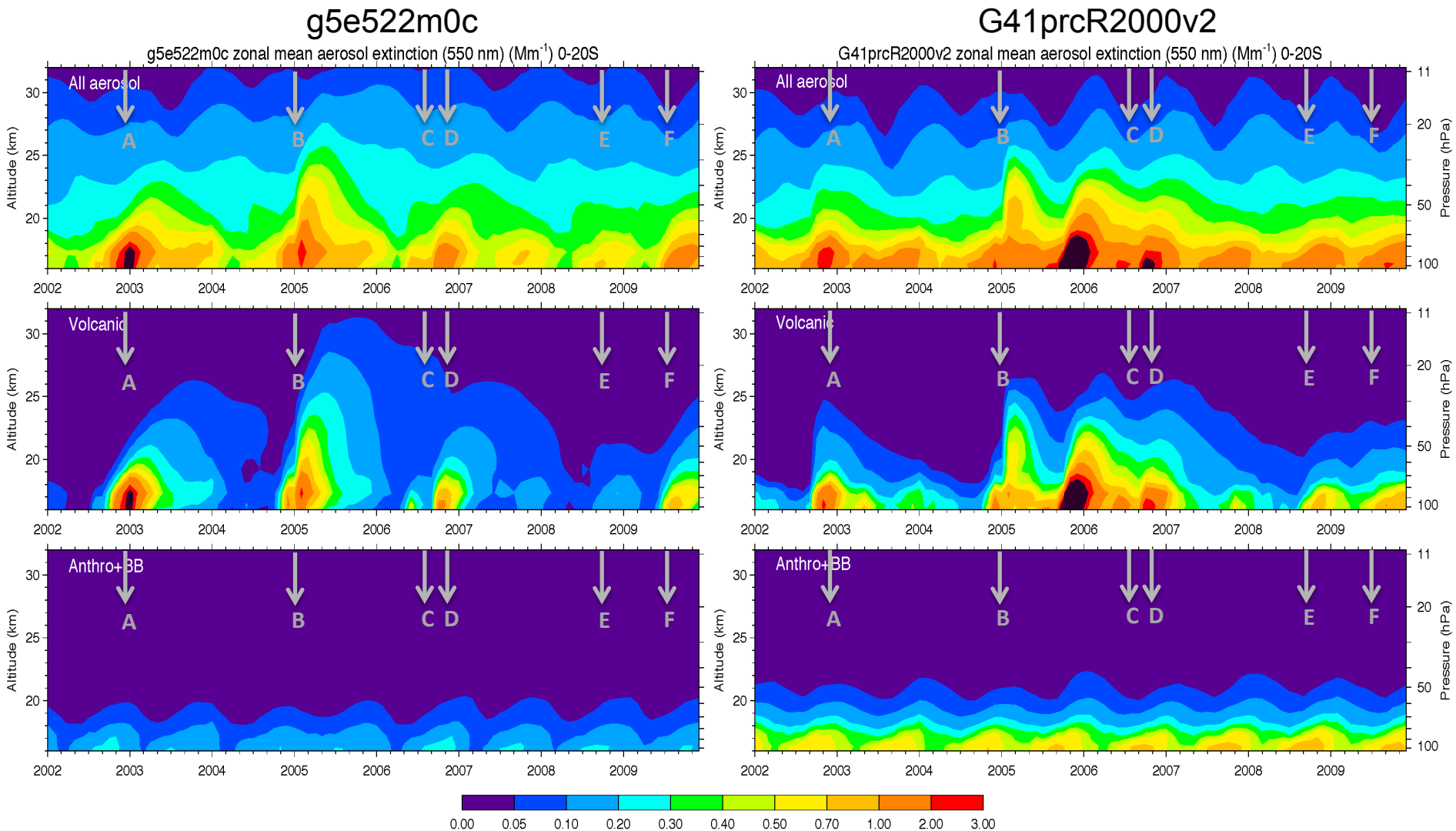
Morphology of Aerosols at 30 km

P. K. Bhartia
NASA GSFC

Morphology is a branch of biology dealing with the study of the form and structure of organisms and their specific structural features

Source: Wikipedia

550 nm Extinction (/10^3km), 0-20S (from Mian Chin)

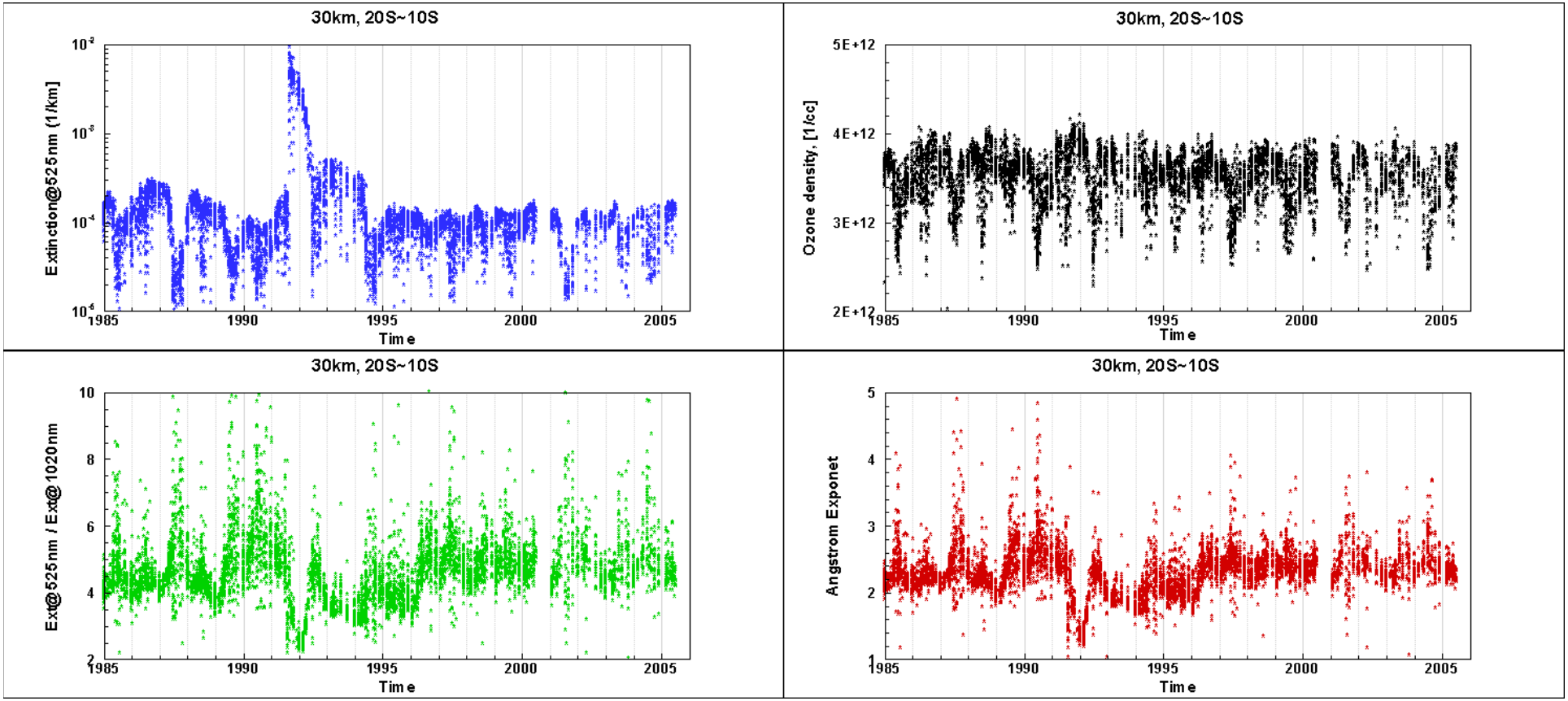


A. Reventador (0.08°S, Nov 2002), B. Manam (4°S, Jan 2005), C. Soufriere Hills (16°N, May 2006), D. Tavurvur (4°S, Oct 2006), E. Kasatochi (52°N, Aug 2008), F. Sarychev Peak (48°N, July 2009)

SAGE II data at 30 km 10S-20S

Aerosol Extinction @525nm /km

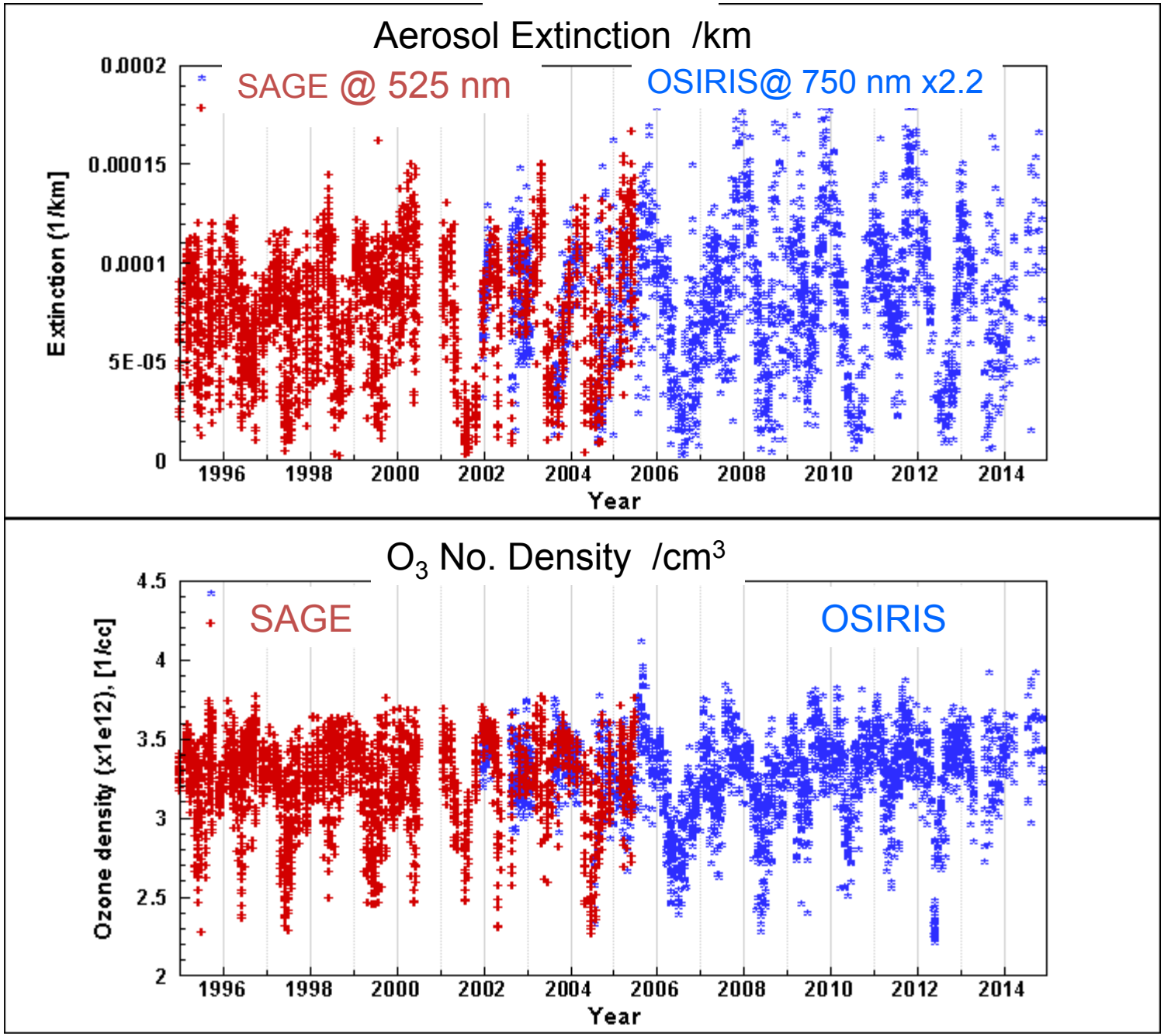
O_3 no. density /cm^3



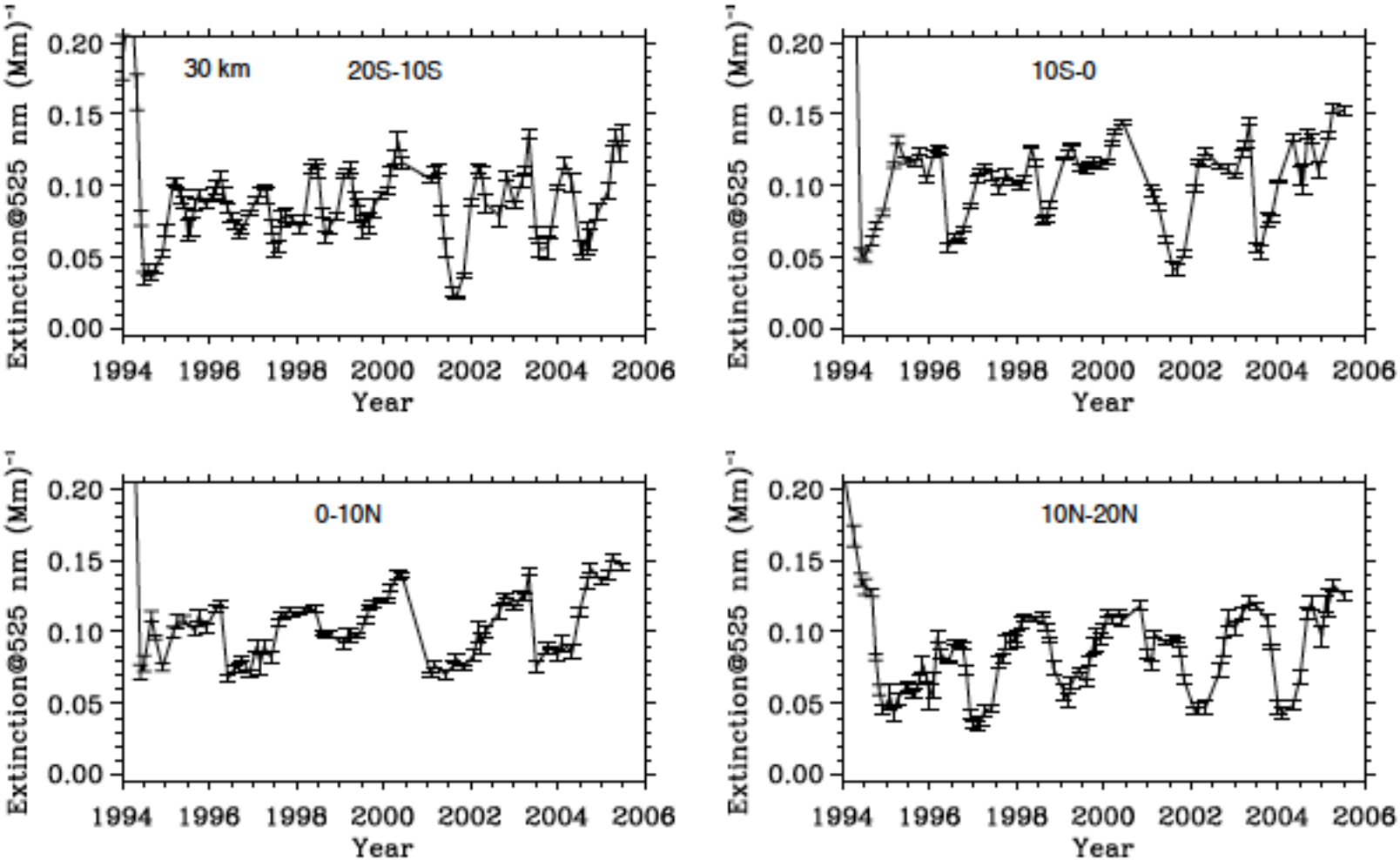
525/1020 nm ext ratio

Angstrom Exponent

30 km SAGE & OSIRIS data 10S-20S

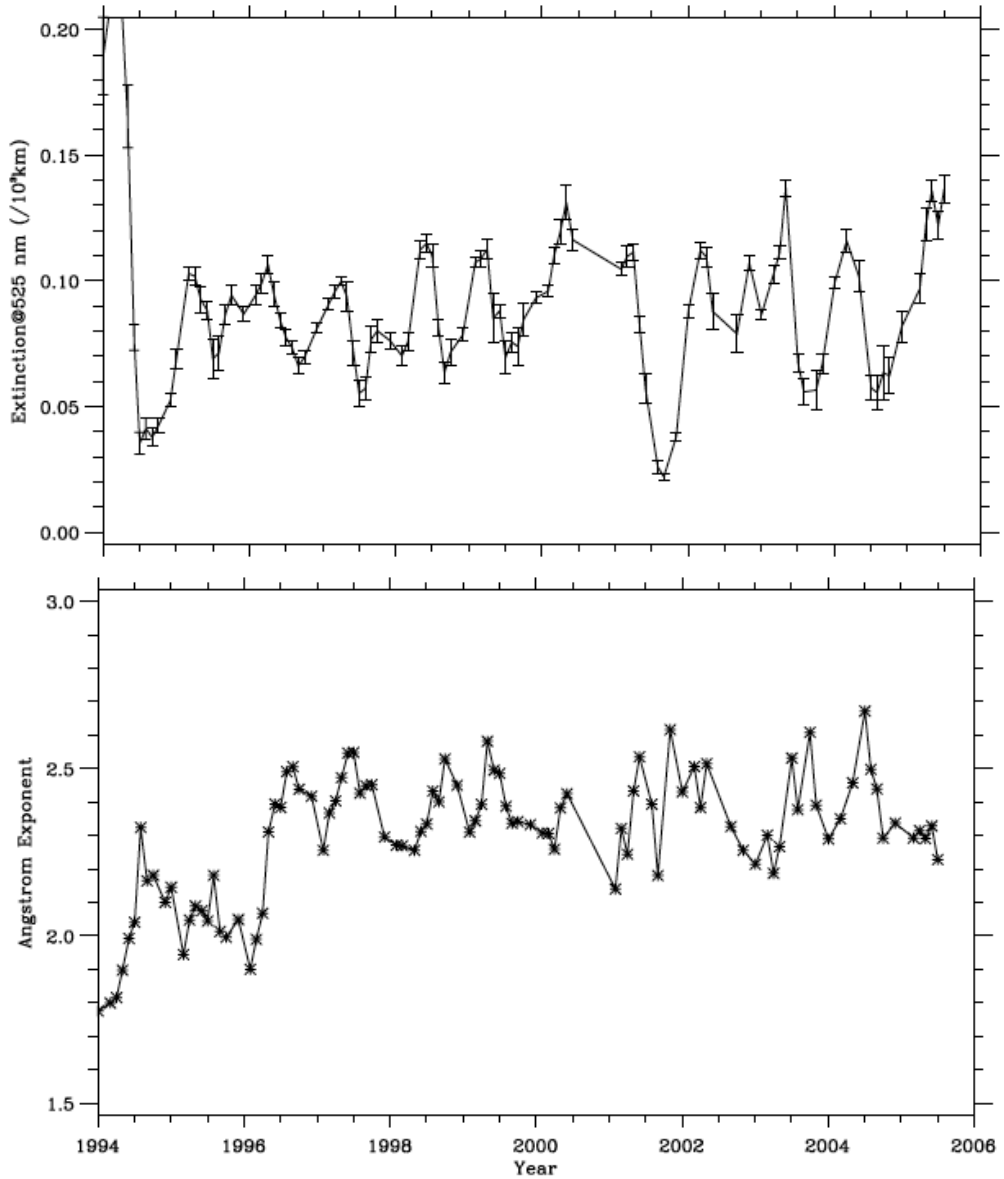


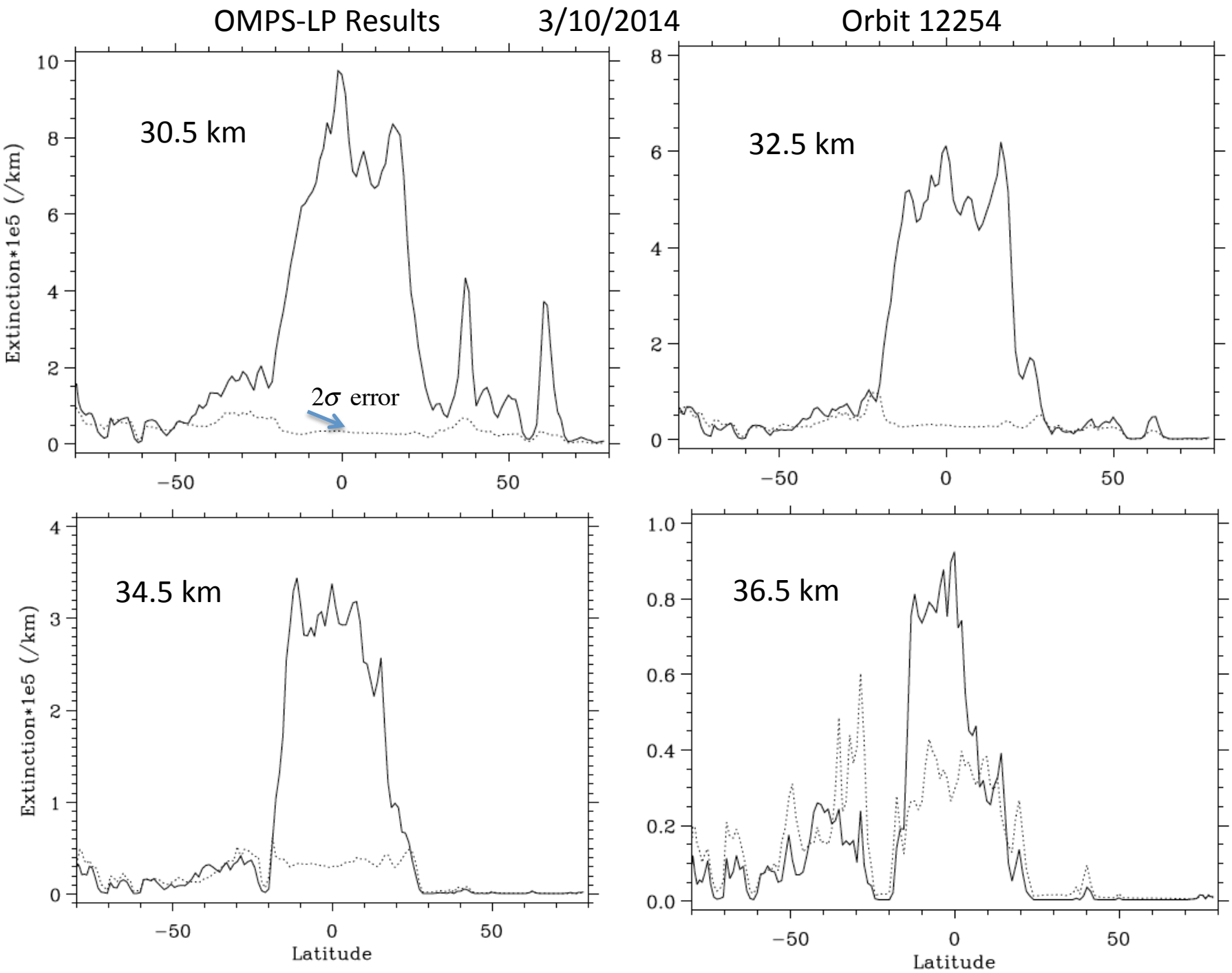
SAGE Aerosol Ext MZM@30 km /10^3km



Data with 1024 nm aerosol ext<4×10^{-6} /km edited out

SAGE Aerosol data @30 km 10S-20S




OMPS-LP Results
3/10/2014
Orbit 12254
30.5 km
32.5 km
34.5 km
36.5 km
2σ error
Extinction*1e5 (/km)
Latitude

Conclusions

- There are are significant uncertainties in modeling the volcanic aerosol signals
- To isolate volcanic signals from satellite data we need to either model OCS accurately or use O_3 or QBO winds as proxy to remove the QBO signal from aerosol data