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# ***Interactive comment on* “Changes in atmospheric aerosol loading retrieved from space based measurements during the past decade” by J. Yoon et al.**

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Dear authors,

This manuscript is very meaningful. I try to help with improving the manuscript:

The paper seems to lack of citations of newer work on aerosol variability over Eastern Europe. According to (Bovchaliuk et al., 2013) the amount of aerosols has decreased since 2009 which is caused particularly by reduction of burnt areas. Moreover, a small decrease of anthropogenic aerosols in industrial regions can be observed from May 2009 to August 2011 in the result of global economic crisis when many factories and

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plants reduced their output.

The previous analysis of aerosol loading has revealed (Bovchaliuk et al., 2013; Barnaba et al., 2011; Korontzi et al., 2006) two AOT high value peaks associated with croplands, peats and forest fires (in April-May and August-September). Besides, authors (Giles et al., 2012) considered this region as a source of urban-industrial aerosols (AERONET data, Moldova site).

### Specific Comments

Pg 26010:

Ln 6: it is not clear "or sampling or atmospheric (changes resulting from human activity or natural phenomena) issues." Perhaps the authors wanted to say "or sampling of atmospheric..."

Pg 26031:

Ln 3: extra zero was typed "and (c) 001.30±30 p.m.". It should be "and (c) 01.30±30 p.m."

1. Barnaba, F., Angelini, F., Curci, G., and Gobbi, G. P.: An important fingerprint of wildfires on the European aerosol load, *Atmos. Chem. Phys.*, 11, 10487-10501, doi:10.5194/acp-11-10487-2011, 2011.

2. Bovchaliuk, A., Milinevsky, G., Danylevsky, V., Goloub, P., Dubovik, O., Holdak, A., Ducos, F., and Sosonkin, M.: Variability of aerosol properties over Eastern Europe observed from ground and satellites in the period from 2003 to 2011, *Atmos. Chem. Phys.*, 13, 6587-6602, doi:10.5194/acp-13-6587-2013, 2013.

3. Giles, D. M., Holben, B. N., Eck, T. F., Sinyuk, A., Smirnov, A., Slutsker, I., Dickerson, R. R., Thompson, A. M., and Schafer, J. S.: An analysis of AERONET aerosol absorption properties and classifications representative of aerosol source regions, *J. Geophys. Res.*, 117, D17203, doi:10.1029/2012JD018127, 2012.

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4. Korontzi, S., McCarty, J., Loboda, T., Kumar, S., and Justice, C.: Global distribution of agricultural fires in croplands from 3 years of Moderate Resolution Imaging Spectroradiometer (MODIS) data, *Global Biogeochem. Cy.*, 20, GB2021, doi:10.1029/2005GB002529, 2006.

Sincerely,

Andrii Bovchaliuk

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Interactive comment on *Atmos. Chem. Phys. Discuss.*, 13, 26001, 2013.

ACPD

13, C8253–C8255, 2013

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