"Semi-empirical parameterization of size-dependent atmospheric nanoparticle growth in continental environments" by Häkkinen et al. (2013)

Correction to Eq. 9

There is a typo in Eq. 9. Instead of having the intensity of ultraviolet radiation (UVB) in the equation there should be the intensity of global radiation (GLOB). The correct formulae for estimating atmospheric daytime concentration of OH (cm^{-3}) is

$$C_{\text{OH}} = \left(\frac{c}{a} \, \text{GLOB}^{0.30}\right)^{0.52^{-1}},$$

where GLOB is the intensity of global radiation (W m^{-2}), $a = 8.6 \times 10^{-10}$ and $c = 1.4 \times 10^{-7}$. All the OH proxy data used in our study was obtained using this equation.

The above equation was derived using equations and semi-empirical scaling factors presented in Petäjä et al. (2009). Concerning the scaling factors there are some typos in the text in Petäjä et al. (2009). Therefore we note that the scaling factors used here were obtained from Fig. 2 in Petäjä et al. (2009).

Reference

Petäjä, T., Mauldin, III, R. L., Kosciuch, E., McGrath, J., Nieminen, T., Paasonen, P., Boy, M., Adamov, A., Kotiaho, T., and Kulmala, M.: Sulfuric acid and OH concentrations in a boreal forest site, Atmos. Chem. Phys., 9, 7435–7448, doi:10.5194/acp-9-7435-2009, 2009.