Supplement of Atmos. Chem. Phys., 20, 8839–8854, 2020  
https://doi.org/10.5194/acp-20-8839-2020-supplement  
© Author(s) 2020. This work is distributed under the Creative Commons Attribution 4.0 License.

**Supplement of**

**Determination and climatology of the diurnal cycle of the atmospheric mixing layer height over Beijing 2013–2018: lidar measurements and implications for air pollution**

Haofei Wang et al.

*Correspondence to: Zhengqiang Li (lizq@radi.ac.cn)*

The copyright of individual parts of the supplement might differ from the CC BY 4.0 License.
Fig. S1. Diurnal cycle of the PBL height over land for a clear convective day (adapted from Collaud et al., 2014).

Fig. S2. Comparison of frequency distribution of all MLH$_L$ retrieved from lidar and MLH$_{RS}$ from radiosonde with the supplementary information of seasonal variation (2013-2018). MLH from (a) lidar and (b) radiosonde at time of 08 (LST), (c) lidar and (d) radiosonde at time of 20 (LST) are presented. Noted that for presenting the detail distribution, MLH$_L$ add up to 20%, while MLH$_{RS}$ add up to 45%.
Fig.S3. Comparisons between MLH_L derived from lidar and MLH_RS from radiosonde at time of 08 and 20 (LST). Red line indicates the linear fitting, while the black dash line represents the 1:1 line.

Fig.S4. Comparisons between MLH'_L derived from lidar and MLH_RS from radiosonde at time of 08, 14 and 20 (LST). Red line indicates the linear fitting, while the black dash line represents the 1:1 line.
Fig.S5. Inter-annual changes of the increment of MLH obtained by lidar throughout the day.