

This revised manuscript has clearly improved. The points raised by the reviewers have adequately been addressed. I think that the paper can now be published. I have a few suggestions for technical corrections (see below).

Thank you for your comments. The point-by-point responses are given below.

Abstract, line 15: The "one of" can be deleted. Or write something like "HONO, an oxidized nitrogen compound, which plays an important role ..."

**Revised:** Nitrous acid (HONO) plays an important role in the formation of ozone and fine aerosols in the urban atmosphere

Page 3, lines 82-83. The sentence that is new in the revised version is difficult to understand and probably not correct. Please rewrite.

**Revised:** Among the ML methods, the neural network (NN) architecture is widely used owing to its powerful ability to process large volumes of data. In particular, a multilayer artificial NN (ANN), referred to as a deep NN (DNN), employs statistical methods to learn nonlinear relationships within the data and yield optimal solutions for a target species without prior knowledge of the underlying physicochemical processes (Reichstein et al., 2019;Schultz et al., 2021).

Page 4, line 114. Should be Gil (2021) instead of Gil et al. (2021).

**Revised:** The dataset used to train, test, and validate can be downloaded from Gil (2021).

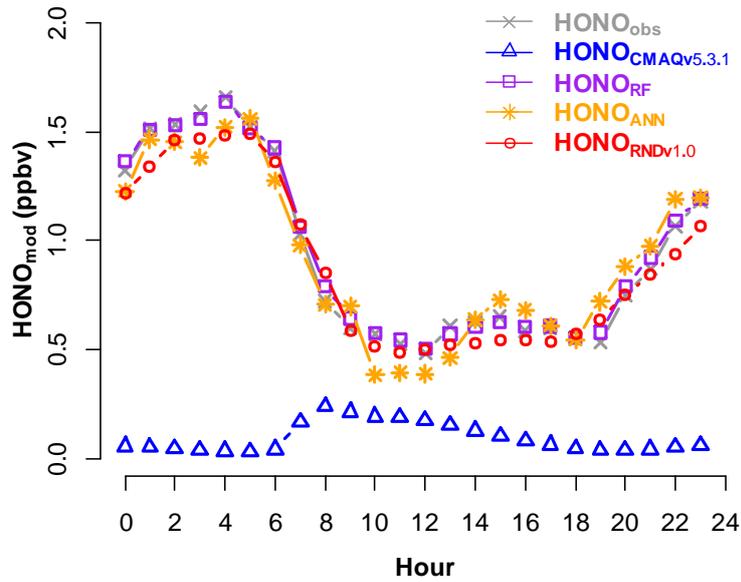
Page 5, line147. Should be "(2847 observations)" or "(2847 data points)" or similar instead of "(2847)".

**Revised:** Finally, 54.2 % of all the available measurement data (2847 data points) were used to construct and evaluate RNDv1.0.

Page 11, lines 318-320. The role of particles for HONO formation should be made a bit clearer. Avoid to use the two terms "nanoparticles" and "submicron particles" here. They mean not the same and using these different terms here is confusing.

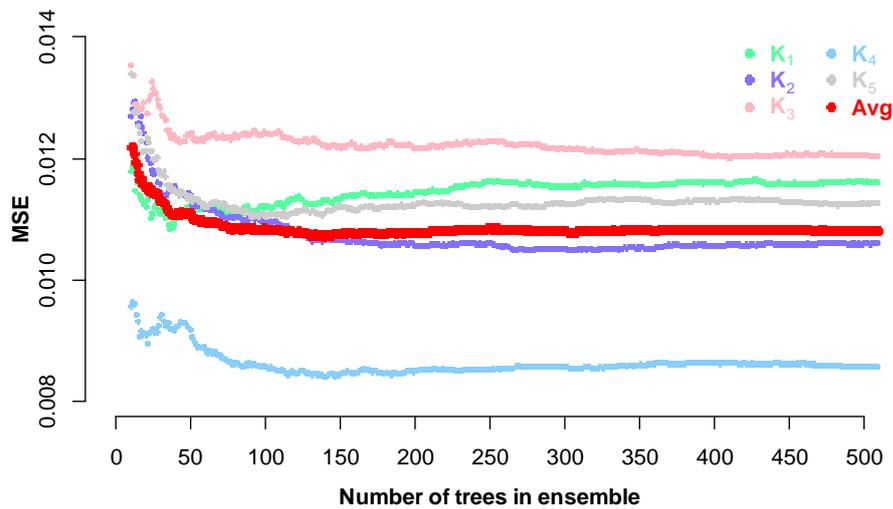
**Revised:** Indeed, a previous study showed that HONO formation is closely related to the surface area of particles with diameters in the range of hundreds of nanometers (Gil et al., 2021).

Figure 6, x-axis. Change label to "Hour" instead of "HONOobs (ppbv)".



**Figure 6.** Average diurnal variation of the measured HONO (HONO<sub>obs</sub>) and calculated HONO (HONO<sub>mod</sub>) using CMAQv5.3.1 (blue triangle), RF (purple square), ANN (orange star), and RNDv1.0 (red circle) during the KORUS-AQ campaign (May–June 2016).

Figure S4, legend. Should be "trees" instead of "tress".



**Figure S4.** K-fold cross validation for Random Forest (RF) model by changing the number of [trees](#) in ensemble.

More general note: The manuscript should again be carefully checked for linguistic errors.