We thank the referee for the positive evaluation of our manuscript. Our replies to each specific comment (in black) are listed below. Red text indicates changes to the manuscript.

Referee 1
This manuscript reports the development, characterization, and field deployment of a 5 channel cavity ring-down instrument for measuring several components of oxidized nitrogen. Several design improvements over previous versions of similar instruments are discussed including an addition of a zero-air humidification system. An extensive laboratory characterization of potential interferences due to chemistry occurring within the heated inlets is performed and satisfactorily interpreted using an inlet model. The manuscript is thorough, well organized, and provides details useful for other groups performing similar measurements. I recommend publication following attention to the comments listed below
General Comments
On page 6 it is mentioned that the dissociation temperature for the PNs heated inlet during ambient measurements was set to 15 K above the plateau temperature from lab (line 17) and similar steps were taken for the ANs inlet. During times of stability in the concentrations of NO2, PNs, and ANs it is possible to conduct these types of temperature scans in ambient air. Were these types of field scans performed during the ambient measurements to verify the use of this temperature during the field deployment?
This type of experiment was not conducted during the NOTOMO campaign but it is planned for the next field deployment of this and a similar instrument that we are developing for NO*y* measurement.
Although small alkyl nitrates such i-propyl nitrate used in the laboratory experiments have negligible sampling losses, multifunctional nitrates such as those formed from biogenic volatile organic compounds are more "sticky." Has transmission of these types of ANs through the filter or through the tubing prior to the heated section been evaluated? How does this impact the measurements of ANs during the NOTOMO campaign where one would expect to be influenced by multifunctional nitrates derived from biogenics?
At present we have no indication that ANs are lost in the inlet. Our sampling strategy during NOTOMO (high volume flow rates through a wide inlet) should reduce wall losses in the inlet to a minimum.
Although a lack of HNO3 decomposition in the ANs channel is clear, did the authors increase the temperature further to see at what point HNO3 decomposition started? This would be useful both in the context of the lab measurements and also the field data.
We could not go to higher temperatures as the heating system was not set-up for this. A future instrument to measure NO*y* (including HNO_3) will be able to examine this.
Specific Comments
Pg 1 line 21: should read "all reactive oxidized nitrogen species"
"reactive nitrogen species" replaced by "reactive oxidized nitrogen species"
Pg 2 line 23-24: Individual nitrates can also be measured via chemical ionization mass spectrometry (e.g., Beaver et al., 2012). Given the thoroughness of the discussion, it seems prudent to include this.
Reference added to the text and text added : "or Chemical Ionization Mass Spectrometry (CIMS) (Beaver et al., 2012)"
Pg 10 line 6: Please explain what parts of the heated inlet A, B, C, and D refer to in the main text and not just the supplement.

Changes applied as asked by the referee. Added text : "[…] section D of the reactor (part of the cylindrical reactor between the fritted glass and the cavity inlet, see Fig. S1) [...]" and "[…] in section B (containing the glass beads) rises […]"
Figure 4: The wording "black circles" in the caption referring to HNO3 could be confusing since solid black circles (dots) are also used. I recommend changing the wording to "open black circles."
"black circles" replaced by "open black circles"
Supplement pg 2 last line: Please correct urge to purge.
"urge" replaced by "purge"
Supplement Fig. 1: Please convert temperature to K to be consistent with the main text.
Figure changed accordingly.