Response to Comments from the Editor:

Having a system for N2O field scale flux measurements with better frequency response than previous systems and at the same time lower sample pump power consumption is a step forward with regard to remote agricultural areas where high-quality power supply is not always available. The technical characterization of the system is rigorous and well done. Including the suggestions of Referee #2 regarding spectral losses and flux detection limit has further improved the paper.

The study is a valuable contribution to the eddy flux community and can be published subject to only a few minor additions:

- On page 18, lines 20-24 and in Fig.8 it should again be indicated that no gap filling was used. Otherwise these total emission numbers do not make sense and may mislead the reader when trying to compare these figures with other studies.

Added to Results (page 18 line 17):
No gap-filling was applied for the comparison of cumulated sums between analyzers.

Changed Fig. 8 caption to:
Cumulative (not gap-filled) N_2O-N emissions.

- Accurate quantification of N losses from fertilized agricultural land is crucial when trying to optimize fertilizer type, amount, application technique, and yield while at the same time keeping N emissions on a low level. I'm missing a rough estimation of the ratio of N emitted to N added (i.e. emission factor) in order to further assess the field applicability of the system. Is information about amount of fertilizer added (N content) available? For this purpose, a simple gap filling routine should be performed (something like mean diurnal variation). Do the results make sense and are they comparable to other studies (maybe even to chamber measurements at the same site)? If available, these information should be added on page 15, lines 10-25.

Added to Methods (page 5 line 17):
at a rate of 150 kg ha^{-1}

Added to Methods (page 12 line 14):
Cumulative gap-filled seasonal emission rates (planting to harvest) were calculated for each year. Daily mean emissions were estimated by extrapolating the mean of the available 30 min fluxes for each day to g N_2O-N ha^{-1}. Linear interpolation was used to fill periods with missing data (Abalos et al., 2015).

Added to Results (page 15 line 19):
Mean gap-filled daily emissions as measured by each analyzer were averaged together. This gave total seasonal (planting to harvest) cumulative emissions of 3.34 kg N_2O-N ha^{-1} and 1.20 kg N_2O-N ha^{-1} for the growing seasons of 2015 and 2016, respectively. This is

within the range of seasonal emissions typically observed at this site (Wagner-Riddle et al., 2007; Abalos et al., 2015) and represented a loss of 2.2% and 0.8% of the applied N.

- Section 3.4 should be 3.3.

Changed.