

## **Reply to Referee comments of the Revised Submission – essd-2020-377**

### **Referee #1 Comment:**

I appreciate the effort that the authors have made to answer the comments I raised. My concerns have been well addressed and I have no further comments. I recommend acceptance after one minor typo being fixed. The typo is on Line 79, it should be "1.66667 cm" instead of "cm-1" since this is MOPD.

### **Reply**

The typo was corrected in the revised version

### **Referee #2 Comment:**

This paper is basically ready for publications. Here are some suggestions for minor revision:

line 21 – “the space” should be “space”

77 – No comma after “resolution”.

84 – Delete “the” before “operation”.

183 – Should be “shapes”.

184 – Should be “grids”.

196 – “will be the subject”

### **Reply**

All these corrections were made in the revised version.

### **Referee #3 Comment:**

Lines 161-169 of the revised manuscript: I am still puzzled about the strong high resolution signatures in the NESR. To my understanding this is an artefact of the NESR determination rather than the real NESR of the instrument. I do not want to start a lengthy discussion about this point but I would like to see a comment in the text that the highly resolved structures in the NESR are due to gases inside the interferometric path.

### **Reply**

This sentence was added to the revised version:

“These noise estimates show highly resolved structures which are due to the absorption lines of gases inside the interferometric path. They depend on the actual working conditions of the instrument that can be vary from measurement to measurement. “