



## **Field testing of the Kipp & Zonen LAS MkII large aperture scintillometer and comparison with the eddy covariance method**

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The latest field measurements and testing of an improved and upgraded version of a commercial large-aperture scintillometer (LAS) are presented. The instrument has been characterised in the field, and the maximum and minimum operating parameters such as path length determined. Spectral analysis was performed on the raw scintillometer signal to demonstrate the absence of any systematic errors or high frequency noise. On-going research to lower internal electronic noise in the instrument allows more sensitive measurements to be made as the detection limit is lowered. The variability between instruments was quantified by comparing measurements of the refractive index index structure parameter,  $C_n^2$  and the sensible heat flux,  $H$ , from 3 different instruments over nearly identical transects in an urban area.

LAS and eddy-covariance measurements were collected over fairly homogeneous grassland with irrigation / drainage ditches at the Cabauw experimental site for atmospheric research (CESAR) in the Netherlands, where the homogeneity allowed direct comparison of the two instruments despite their differences in footprint sizes.