

Supplementary Materials for

“Estimations of the NO_x emissions, NO₂ lifetime and their temporal variation over three British urbanised regions in 2019 using the TROPOMI NO₂ observations”

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Tab. S1. Signal-to-Noise Ratio (SNR) for each tested city. The size of the fitting domain is also provided.

city	size of the fitting domain	SNR
London	100 km×100 km	16.1
Birmingham	60 km×60 km	9.1
Manchester	60 km×60 km	8.4
Glasgow	10 km×10 km	4.0
Bristol	10 km×10 km	3.8
Belfast	10 km×10 km	3.0
Southampton	10 km×10 km	2.7
Leeds	10 km×10 km	1.8
Cardiff	10 km×10 km	1.8
Swansea	10 km×10 km	1.6

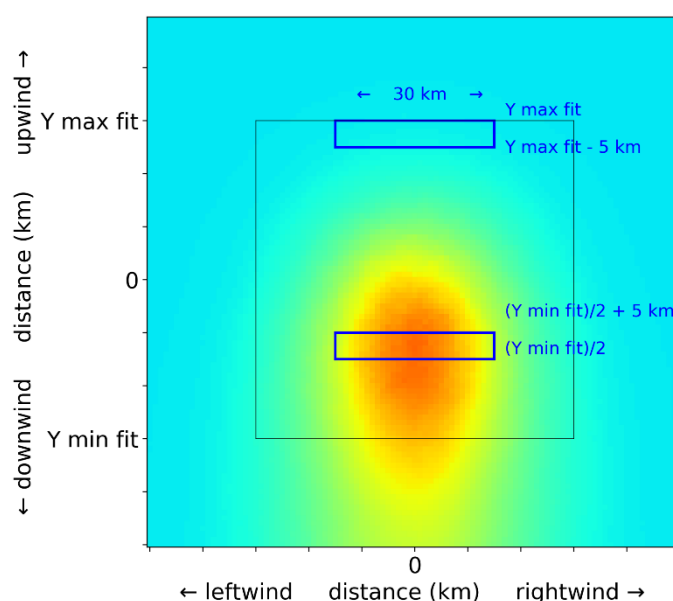


Fig S1. Illustration of the areas used to calculate the signal-to-noise ratio (SNR) (blue boxes). The centre of the source location is located at (0,0) on x and y axis. The thin black box shows the zone uses for the fit.

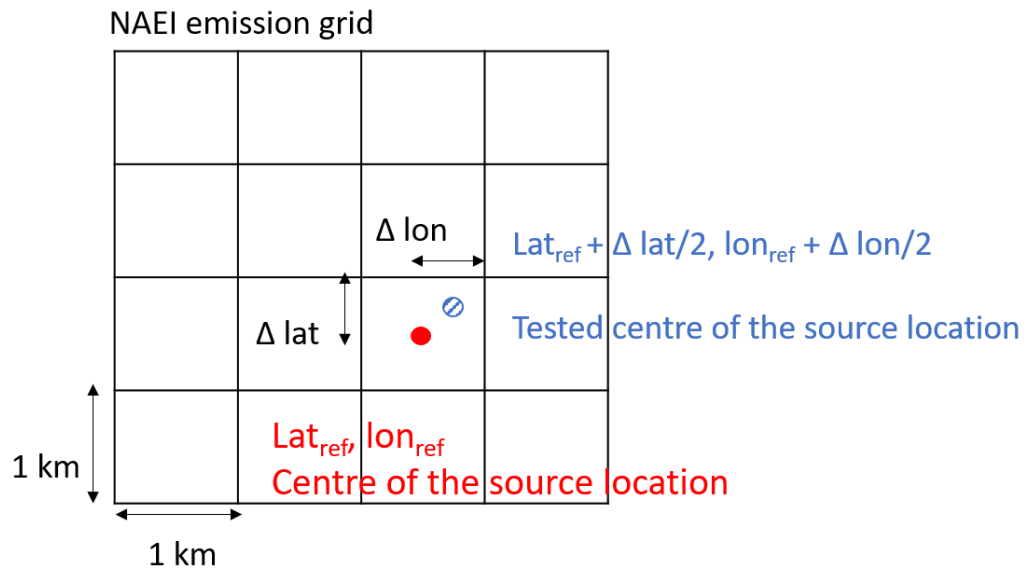


Fig S2. Scheme showing the change in the centre of the source location within a 1 km² grid cell. The initial centre of the source is shown with the red circle, while the shift of this centre is highlighted with the blue stripped circle.

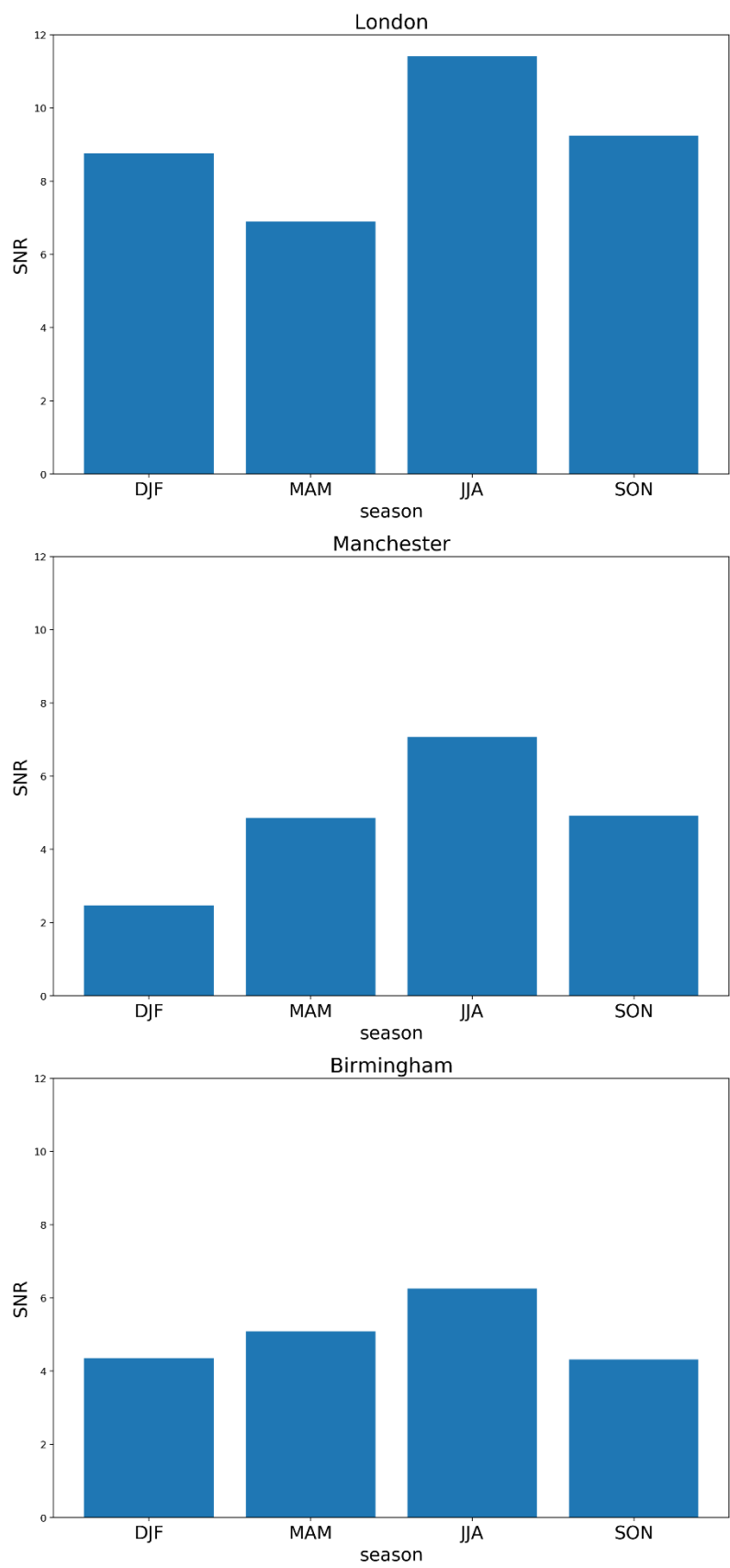


Fig. S3. SNR by season for London, Manchester and Birmingham.

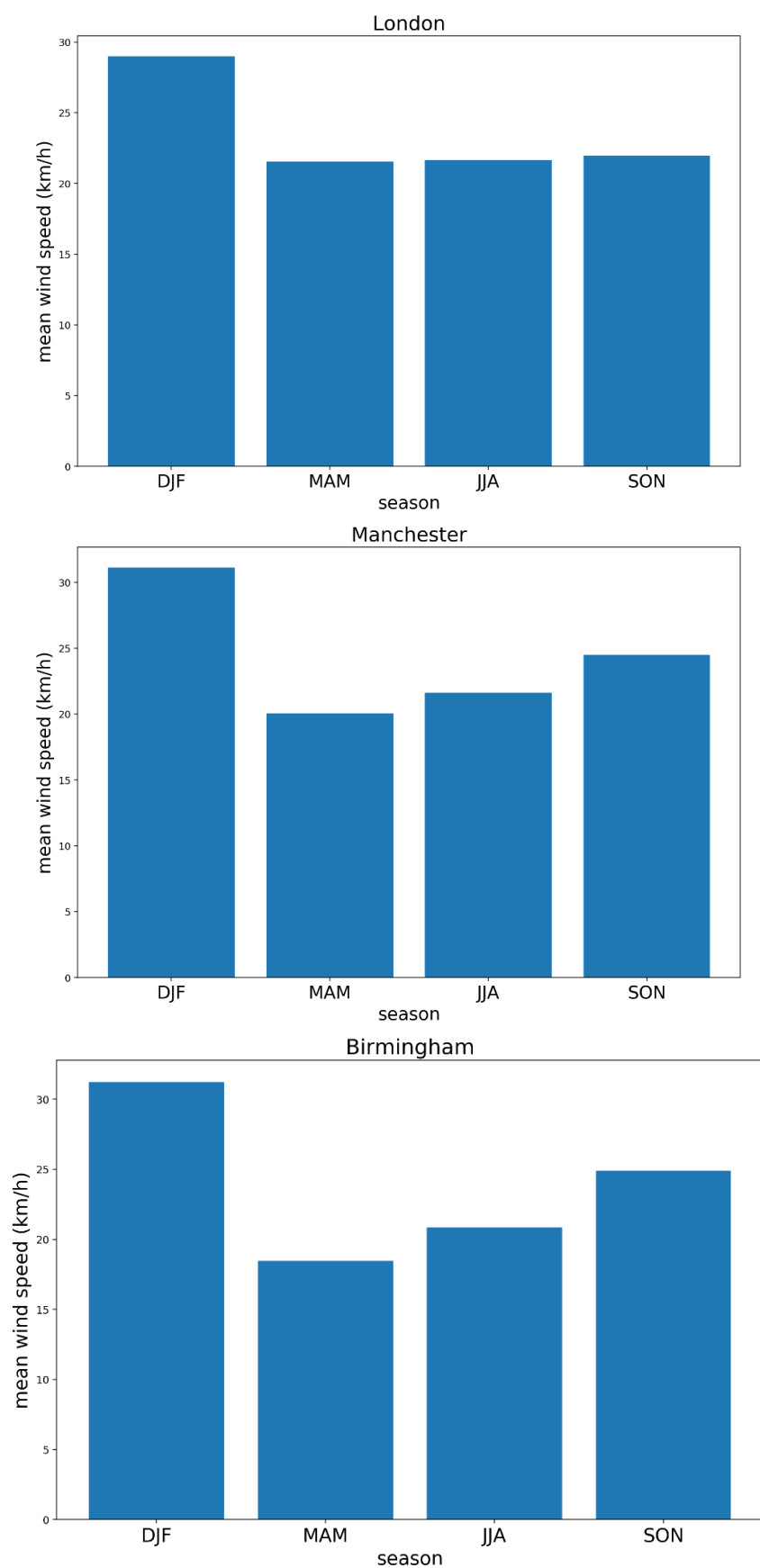


Fig. S4. Mean wind speed by season for London, Manchester and Birmingham.

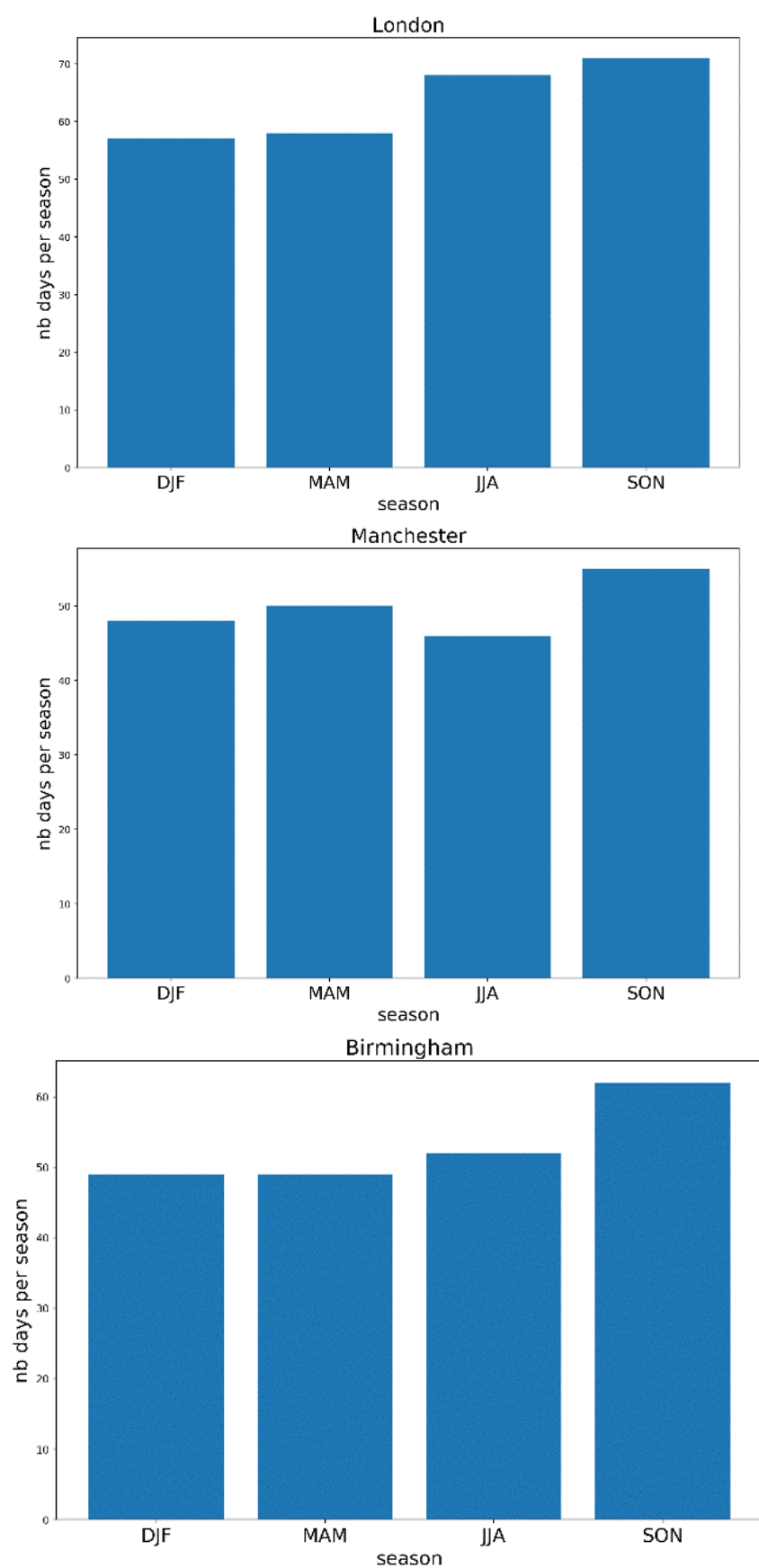


Fig. S5. Number of days available for the fitting procedure by season for London, Manchester and Birmingham.