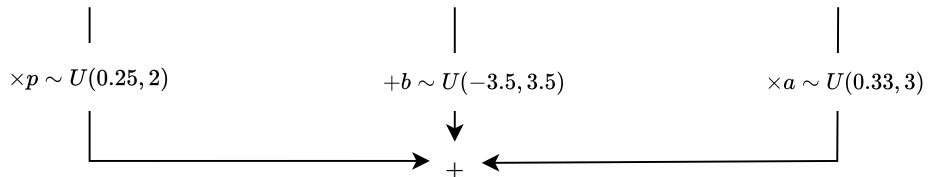Plume for chosen PP at time t   Background for random PP and time   .lt. anthro. fluxes for random PP and time

$\times p \sim U(0.25, 2)$ $+b \sim U(-3.5, 3.5)$ $\times a \sim U(0.33, 3)$

$+$
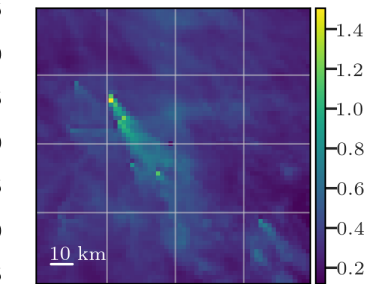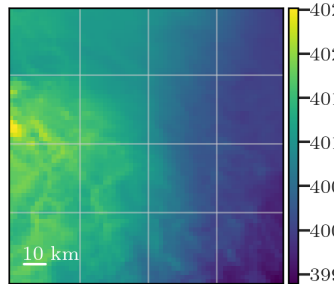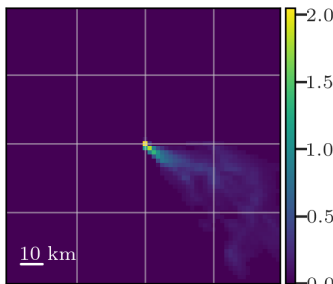
$+\mathbf{G}_{\mathrm{Nx \times Ny}} \sim N(0, 0.7)$

XCO2 field

Concatenation   ← Winds and additional fields corresponding to chosen plume

Normalisation

Core CNN model processing

Backpropagation

$$\text{Loss} = \frac{pred - p \times y_{\text{truth}}}{p \times y_{\text{truth}}}$$