Bayesian Inversion Methods and Toolbox for Their Application to Accidental Radionuclide Release

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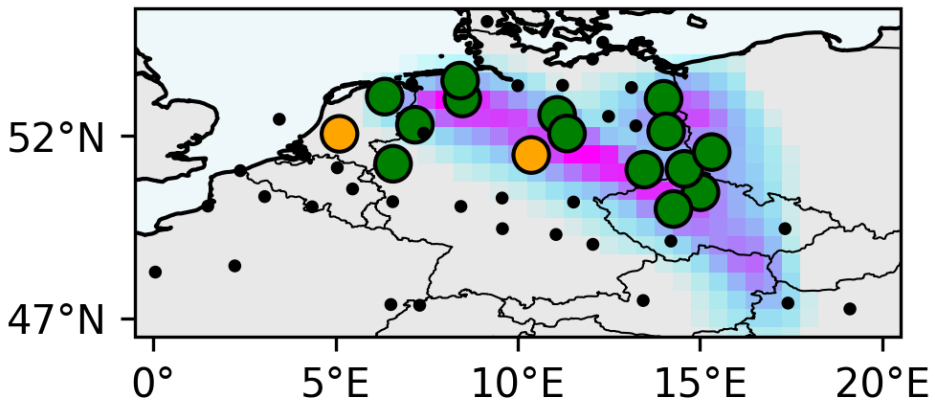
General Inverse Problem

The inverse problem is to infer unknown release sources **x** from measured signals **y**. In practice, their relatioship is described by atmospheric transport model represented by matrix **H**, which spreads and mixes the plume before it reaches sensors

$$\mathbf{y} = \mathbf{H}\mathbf{x} + \mathbf{e}$$

We use a **Bayesian approach** to combine observations with prior information, making the problem more stable and interpretable.



Inversion