



## **Estimation of CO emission sources in southern France using inverse modeling (application on ESCOMPTE campaign)**

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In this study, the Inverse Modeling method was used to determine localization and intensity of CO emission sources in southeastern France. CO has a linear behavior and can be considered chemically inert for a short time scale (one week). In summer 2001 the ESCOMPTE campaign was conducted in the coastal region of Marseilles-Fos-Berre in southeastern France. The CO concentration was measured hourly during the campaign in a few tenths of sites spread within 60 kilometers of the big city of Marseilles and its industrial dependences of Fos-Berre. We investigate the visibility of some particular sources according to its upstream or downstream position with respect to the detectors, according to the intensity of the diffusion processes, according to the smooth or peaked geometry of the source. Both synthetic data obtained for artificial sources and the real data are considered. This opens on a debate about network design for which the recently introduced concepts illumination or renormalisation are shown to be especially relevant.