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The project 'CHEERS'(Chemical and Physical Properties and Source Apportionment of Airport Emissions in the context of European Air Quality Directives): preliminary results

Civil aviation is fast-growing, mainly driven by the developing economies and globalization. Despite the increased attention given to aircraft emissions at ground-level and air pollution in the vicinity of airports, many research gaps still remain. In particular, the chemical and physical characterization of PM has not been fully elucidated and the role of plume aging on PM mass and composition is largely unknown.

The goals of the Marie Curie project 'CHEERS'(Chemical and Physical Properties and Source Apportionment of Airport Emissions in the context of European Air Quality Directives) arise from the research needs associated with airport-related air pollution. The project aims to investigate the impacts of major airports upon local air quality and the apportionment of those impacts to aircraft, road traffic and other emission sources typical of large cities holding large airports. The CHEERS project was consequently planned based upon two main strands: (1) the chemical and physical characterization of aircraft plumes, giving particular attention to gaseous pollutants largely associated with airport emissions, as well as particles and their composition and size distributions as an indicator of source and formation mechanisms; (2) the source apportionment of fine particulate matter (PM2.5) using molecular marker-based chemical mass balance modeling to quantify the impact of aircraft operations and road traffic upon local air quality.

With the novel and innovative application of a large set of instruments, this project offers a major advance to better understand the airport emissions. The preliminary results will be presented.

Working group IAS (WG1, WG2, WG3) o sessione speciale (SPR)

WG1

Tipo di presentazione (orale o poster)

Poster

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