



WG3 topics
SPECIEUROPE
DELTASA
CEN
Training

The JRC database of PM source profiles SPECIEUROPE

<http://source-apportionment.jrc.ec.europa.eu/Specieurope/index.aspx>

1st RELEASE 2015

209 profiles:

150 original,
13 composite
39 derived,
6 stoichiometric

2nd RELEASE 2017
80 NEW PROFILES

SPECIEUROPE



Source profiles for
Europe Database

JOINT RESEARCH CENTRE
Source Apportionment

European Commission > EU Science Hub > SA

Source Apportionment

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The source apportionment

News and updates
New report available for download:
"Air quality in the Danube macro-region"
More news...

Delta-SA
The new online tool to assess source apportionment model outputs. It works in two different modes:
(1) the source chemical profiles similarity,
(2) a complete test of the model result.

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BENCHMARKING | SOURCE APPOINTMENT | FAIRMODE

SPECIEUROPE

Source profiles for Europe database

HOME | DATABASE | ADDITIONAL INFO

Welcome to SPECIEUROPE

SPECIEUROPE is a repository of source profiles developed by the JRC in the framework of FAIRMODE WG3. The target users are source apportionment and emission experts working on the identification of atmospheric pollution sources in urban or background areas in Europe. In order to maximize the compatibility with existing systems, the encoding of species in SPECIEUROPE is coherent with the one of the well-known [US-EPA SPECIATE](#) repository for north-American sources.

DELTASA: the online tool for the evaluation of SA models

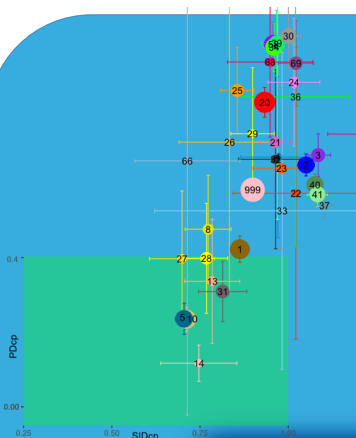
Chemical profiles similarity test (CPS)

Any registered user can upload to the server his/her chemical profile (s) in relative mass on the total PM.

The similarity test is performed with more than one thousand PM₁₀/PM_{2.5} source measured chemical profiles from the online SPECIATE (US-EPA) and SPECIEUROPE repositories using as distances:

- Pearson Distance (PD=1-R)
- Standard Identity Distance (SID).

→ a report is generated to support the identification of factors.



Chemical Profile Similarity

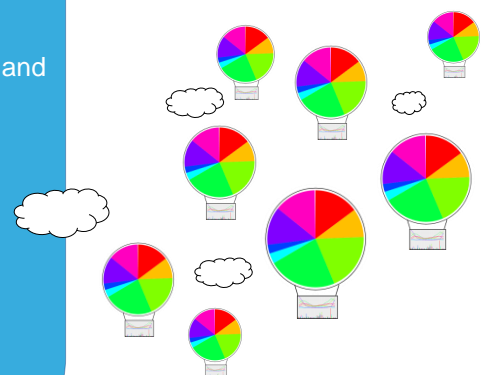
Source Apportionment Model Performance

Delta tool for Source Apportionment

DeltaSA

It is an on-line tool to assess source apportionment model outputs. It works in two different modes. The first is the source chemical profiles similarity, the second mode consists in a complete test of the model performance (MP).

<https://delta-sa.jrc.ec.europa.eu/sadelta>



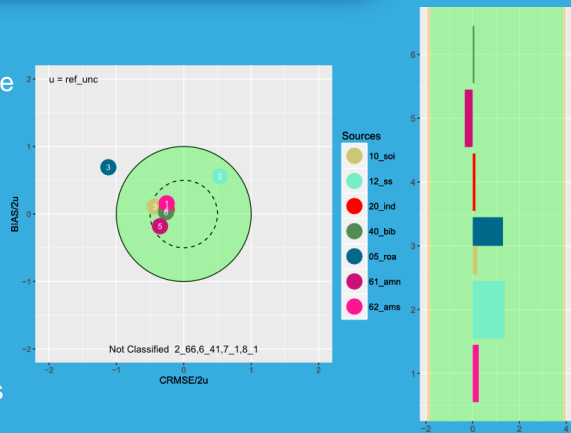
Model Performance (MP)

On-line calculation of the performances using one of the three preloaded intercomparison (IE) dataset.

The user downloads a dataset, run its model and uploads his/her results (CP, SCE, CP see methodology), attributing each candidate to one or more predefined sources.

The tool calculates for each candidate-source a measure of the performances.

→ a report is generated with a summary of the performances



The performance criteria used are:
 Target ← SCT SCE → z-score

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Source Apportionment

European Commission → EU Science Hub → SA

Source Apportionment

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The source apportionment

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SPECIEUROPE Database

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Delta-SA

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CEN WG 44 progress

There were three meetings since the last Fairmode technical meeting

Vienna Nov 2016

Utrecht Feb 2017

Helsinki Jun 2017

New versions of the TS and of the validation project were drafted

The TS scope should be broad but it must be clearly stated that, at present, the method is only tested for PM.

Discussion about practical implementation of the standard

The methodology is for evaluation of SA methods in intercomparison exercises or when reference SCE are available (previous intercomparisons, synthetic datasets)

How often, for what applications, who organises the intercomparisons, etc...

Some members claim current methods (RM, CTM) are too demanding

So it was decided to:

- a) open the CEN/TS to simplified methods that are being used EU-wide provided they meet same quality standards as the ones currently considered (receptor models and chemical transport models),
- b) performance test with references (intercomparison) not needed for every single source apportionment application

CEN WG 44 progress

- CEN/TS should bring together scientific knowledge and the needs of the administrations that use the tools. More involvement of local air quality management is needed.
- A guide on how to use different SA methods would be useful but is out of scope of the CEN/TS (is under development in FAIRMODE).
- Further clarification about the roles of FAIRMODE and CEN would be useful. In particular, FAIRMODE should carry out technical work and point out what are the mature issues that need to be tackled in the CEN/TS.
- Performance indicators currently included are the core of the CEN/TS much like in ISO 13528 and are acceptable.
- Local administrators often work with ozone and NO₂ and the scope of the CEN/TS should include this. A qualitative/quantitative checklist for testing the quality of a solution could be added as an alternative method.
- Quality assurance regarding the input datasets and the emission data should be included.
- WG 44 would like to involve experts to cover SA techniques currently not addressed in the TS and to try to integrate them into the work.

Future events

TRAINING ON AIR QUALITY MODELLING

Dates: 3-5 October 2017

Venue: Ispra, Italy

Main topics: Source apportionment with receptor models and SHERPA

Registration (by 31 August 2017):

<https://web.jrc.ec.europa.eu/rem/app.html?#/subscription-form-screen/meetingId=86063>

The course includes theoretical lessons and practice. A basic knowledge of receptor models is required.

The course is open and free of charge. There is a maximum allowance of 20 places. Priority will be given to experts from the 14 countries of the Danube macro-region and to FAIRMODE experts.

Confirmation of registration acceptance and more details about the course will be sent in early September