

LEMACAFC algorithms for complex sources

More details can be found in the main functions header.

1. Evaluation function.

Function `caf_eval_c.m` allows to evaluate the LEMACAFC algorithm from synthesized data.

The source matrix is generated from simulated telecommunication signals (8psk, 4qam...) , the mixing matrix is randomly drawn and the observation matrix is built according to the linear model. Then LEMACAFC is run in order to estimate the mixing matrix.

All parameters are defined at the beginning of the function's body. Thereby, one can vary, the source type, the source number, the observation number, the SNR and all the algorithm parameters (differentiation order, number of iterations...).

The function displays and returns the NMSE between the real and estimated mixing matrices.

2. Running the LEMACAFC Algorithm.

Of course, LEMACAFC can be directly run on an observation matrix. 3 different functions can be used:

- `LEMACAFC2.m` resorts the second order version of the algorithm (LEMACAFC-2).
- `LEMACAFC3.m` resorts the second order version of the algorithm (LEMACAFC-3) .
- `LEMACAFC_auto.m` allows to choose any differentiation order (by default, order 4 is used). This last function is far more time time consuming.

The main input argument is the observation matrix. All details about the input and output arguments are given in the function header.