

Content of folder

MATLAB\Example\Discrimination scenario

This directory gives examples of performing discrimination methods in the SAISIR environment.

It shows how to carry out several discriminant analysis and gives example of typical graphics related to discrimination.

The presente methods are:

maha6 : Forward selection of variables in discrimination (Mahalanobis distance)

quaddis: quadratic discriminant analysis (a Mahalanobis distance for each group).

fda2: Factorial discriminant analysis on PC scores

plsda : PLS discriminant analysis

You must have a MATLAB license and have installed the SAISIR package (see MATLAB\installation directory.)

For starting the script,

- Run MATLAB
- From the MATLAB desktop,
let MATLAB\Example\Discrimination scenario be the current folder.
- Type discridemo followed by [carriage return]

The example data set is a series of NIR spectra of apple fruits. The discrimination deals with the degree of maturity of the fruits. This maturity is given by a number, ranging from 1 to 6, in the order of the maturity (first character of the identifiers). The second character (not exploited here) indicates the cultivar of the fruit.

The demonstration is not a complete lecture on discrimination.

It is useful in parallel to consult the **SAISIR** tutorials in

MATLAB\Documentation\tutorial2, and to consult appropriate other sources of documentation, for understanding the principle of the methods.

You must also look at the script itself using the MATLAB editor, and activate the script step-by-step.

For each function, you can consult the help using for example the command 'help plsda' to see the help on 'plsda'

The application of PLS for regression is shown in the folder

MATLAB\Example\PLS scenario

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Note: The file spectra.csv has been obtained by

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