Python Documentation

version

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Contents

DIADEM

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Overview

This software performs images analysis. It works with other modules of 2ISystem.

The exchanges of data are done through " **. ddm** " files.

Loading an image

The software can load images in format (bmp, jpg, tiff), " **.ddm**" or " **.dat**" (2ISystem "Pegase pro" management software images).

When opening of a file " **.ddm** ", the software retrieves the image and the overlay image.

Reminder: the image overlay contains the labels. One can say that a point of the image is defined by its color (r, g, b) and the color of its label. All points of the overlay which are not labels are considered as background points and have the "background" color. Then labels are separated by background. The overlay must therefore contain areas of color other than the background color. If there are no labels, Diadem will not find any object to analyze!

All points of the image that have the background color are said " **transparent** ". They are ignored by the software. The software then analyses the points of the image that has a different color from the background.

When opening an image file " **.ddm** " or " **.dat** " the software executes two things:

- It seeks colors labels.
- It automatically creates an object for each label, even if a label is made up of several isolated areas. This is used to obtain information directly for all the area with the same label. The operator can then separate each label in its elementary items to get an analysis on elementary object.

Displaying Results

The window displays a summary of results in an array of values. Each line corresponds to an object.

- Click on a row of the table: The object is designated by its borders.
- Click on an object : The corresponding line is displayed.

The software displays characteristics for each object. Each "**characteristic**" name is displayed in columns headers.

Click on the icon, right of the name of the characteristic to reach these functions :

- Sorting lines
- Classification
- Selection of values

Units: The software uses image calibration to show results in real dimensions.

In addition, the window "statistic" gives statistical results for the object displayed in the array.

Classification objects

Objects are image points that are together and have the same label. The software calculates a set of features for each objects. You can create classes of objects using these characteristics.

At the opening of an image:

- The software detects all objects of an image. (it uses the labels)
- The software creates predefined classes, which are displayed in the window class view :
- "**_all_cells_**" : All objects of the image.
- "**_inside_ROI_**" : Objects that are inside a R.0.I. (Made with "**Calisto**" or from a file for R.0.I. with predefined size).
- "**_intersect_ROI**": Objects that are under the border of the R.0.I. .

Selecting objects

Directly on the image:

- Maintain the "**shift**" key down,
- Click on objects that you want to select: the corresponding lines are marked.
- Put the mouse on one of these lines.
- Click the right mouse button and select "**Merge**". The software creates a class " **_merge_** ". This class is displayed in the window class view. Place the mouse on the name and select "rename" to change its name.

Warning: don't forget to change the name of this class, otherwise it will be cleared by the next selection.

Select from the list:

Put the mouse arrow over a line

Select a series of non-successive lines: Keep the button "ctrl" down and click on all wanted lines.

Selecting contiguous lines: Put the mouse arrow over a line. Keep the "Shift" button down and click the last line.

Commands of the window "feature list":

Put the right mouse button over the list of objects. Click the right mouse button. A floating menu appears:

- "**New class**" makes a class that includes the selected objects.
- "**Select all**" selects all lines.
- "**Clear selection**": deletes the selection.
- "**Inverse selection**": inverse lines selected.
- "**Setup feature**": Chose whose features have to be use.

To use a characteristic:

- Click its name in the left column.
- Click on the arrow "to the right". The name of the feature appears in the right column.

To delete a feature

- Click on its name in the right column.
- Click on the arrow "to the left" column. The name of the feature disappears from the right column.

Other functions:

- button "**load**" and "save as" are used to load and save lists of characteristics.
- "**Merge**" is used to combine the selected objects in a single object.
- "**Split**" splits an object in elementary objects.
- "**Delete**" removes selected objects. These objects are removed from the list of objects only. They will no longer appear in the results. But if there is a new analysis, they will appear again.
- "**Print**": Prints objects characteristics
- "**Print preview**": Shows how the list of characteristics will be printed. The quality of the preview depends on the driver of the printer.
- "**Print setup**" This command is used to select the printer.
- "**Export to excel**": This command exports the list of items to Excel.
- "**Export as csv**" This command exports list in a file format "**csv**".

Display

The image loaded in the software appears in the main window.

The main window consists in menus, panels and a display area of images.

How to move a menu:

Bring the mouse on the line dashed. This trait is located at the beginning of the toolbar.

Click and move.

The panels

There are two panels: " **Extractor bar** " and " **Measurer bar** ".

Each window has a blue bar at the top.

Removable panels

To the right of a bar there is a cross and a pin vertically.

If you click on the pin, the panel becomes removable automatically and the pin becomes horizontal.

To delete the panel, click on its name.

To fix the panel again, click on the pin when the panel is opened.

Moving Panels

Take the blue bar of a Panel with the mouse.

Move the mouse:

The window stands out.

Blue icons appear. The icons arrows indicate where you can put the panels.

Bring a panel on the arrow of an icon. Put mouse pointer on the arrow and release the mouse button.

The panel is stopped at this place.

Indices and tables

- **genindex**
- **modindex**

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- **search**