GPDQ Documentation

Release 0.0.0

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GPDQ (Gold Particle Detection and Quantification) is a tool for the analysis of images obtained by inmunogold labeling. It is written in Matlab, and provides a set of functionalities that allow:

- Managing projects and experimental series
- Automatic and semiautomatic labeling of images
- Basic image procesing
- Data analysis
- Generating and exporting reports.

The Matlab APP covers the whole analysis process, and the objects and functions use a transparent representation of the information (data structures, images and csv files) so that they can be used as a complement in the work with other tools or statistical packages.

Requirements

GPDQ v1.0.0 has been written on Matlab R2018b. It requires these toolboxes:

- Image Processing Toolbox (Version 10.3)
- Parallel Computing Toolbox (Version 6.13)

CHAPTER 1

Quickstart: GUI App

GPDQ (Gold Particle Detection and Quantification) is a tool for the analysis of images obtained by inmunogold labeling. It is written in Matlab, and provides a set of functionalities that allow:

- Managing projects and experimental series
- Automatic and semiautomatic labeling of images
- Basic image procesing
- Analyzing data
- Generating and exporting reports.

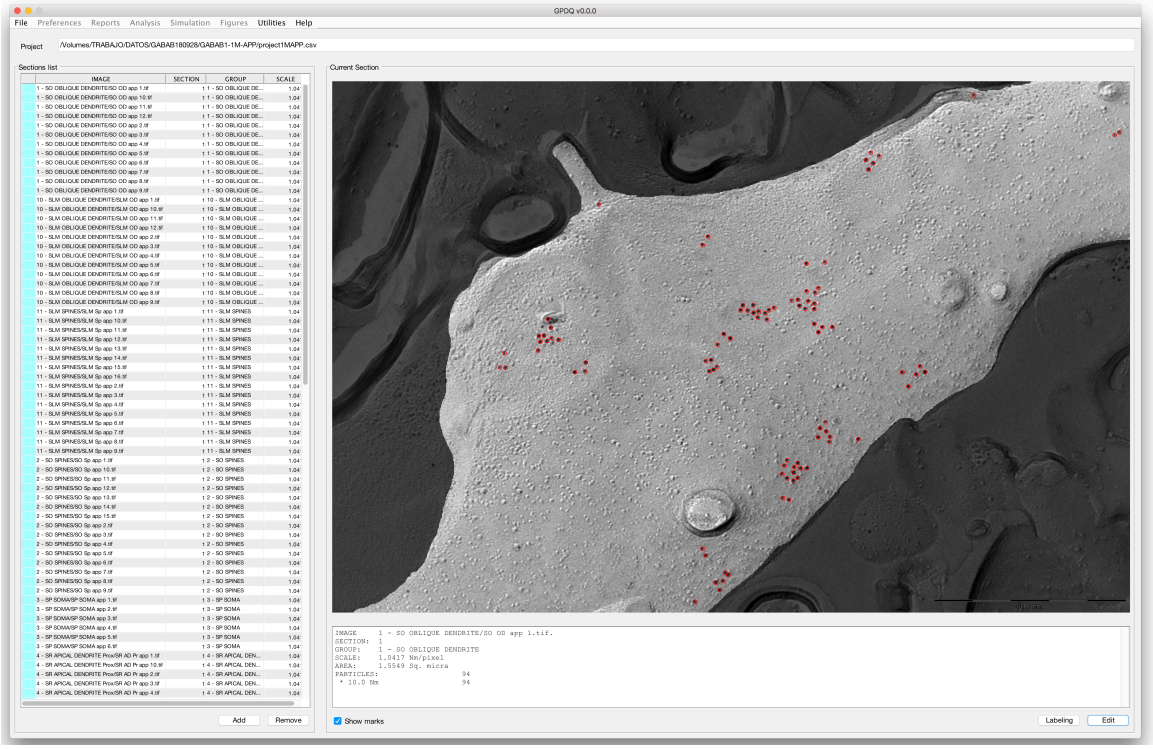

Figure 1.1. Main application for project management.

The Matlab APP covers the whole analysis process, and uses a transparent representation of the informa-

tion (structures, images and csv files) so that it can be used as well as a set of objects and functions that complement the work with other tools or statistical packages.

```
project = GPDQProject.readFromFile('DATA/GABAB1-6M-WT/', 'project.csv');
report = reportNNDStats(project.getProjectData(),2);
report.save('GABAB1-6M-WT.csv');
```

CHAPTER 2

Projects

Description of a project, how it is structured here we will see *Creating new projects*

CHAPTER 3

Utility Functions

How to use each function separately *Creating new projects*

3.1 Creating new projects

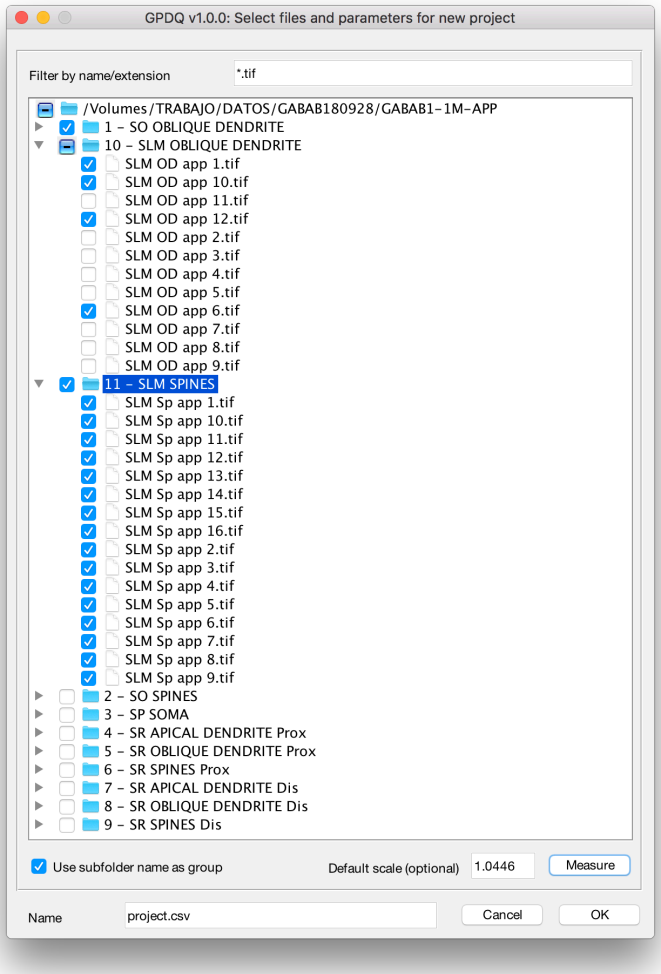

Figure 3.1. Project creation with `newProjectEdit()`.

3.2 Measuring scales

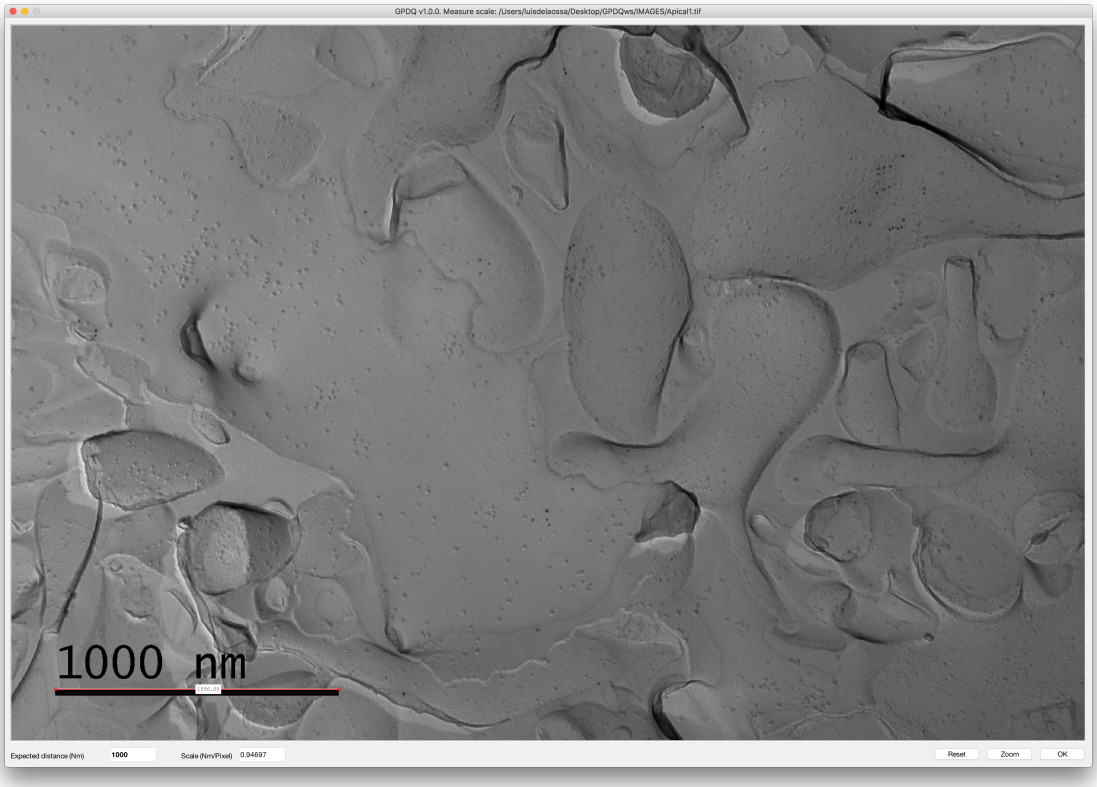

Figure 3.2. Scale measuring with `measureScale()`.

3.3 Editing sections

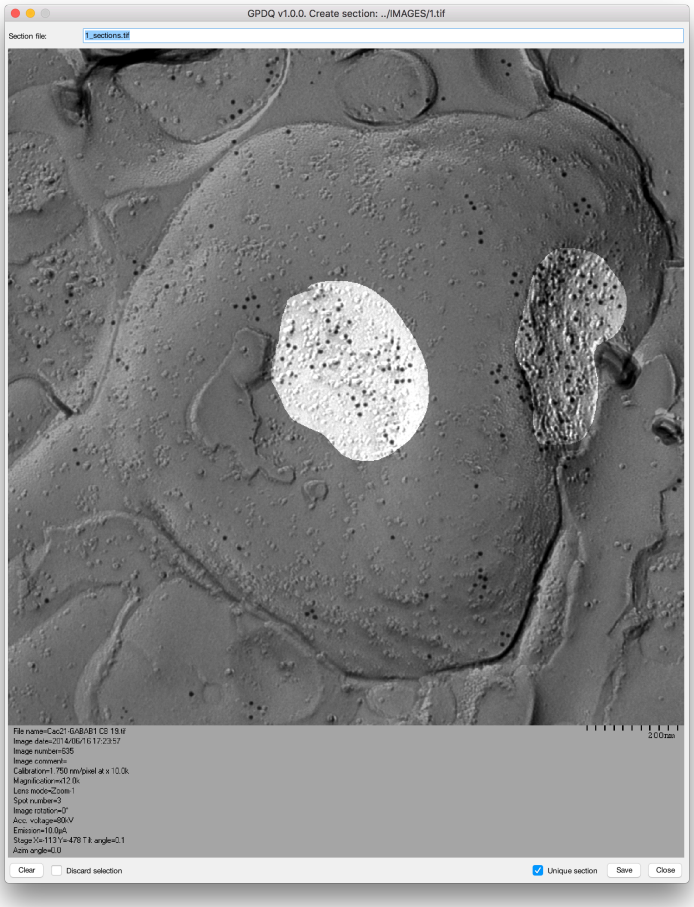

Figure 3.3. Section edition with `createSection()`.

3.4 Section labeling

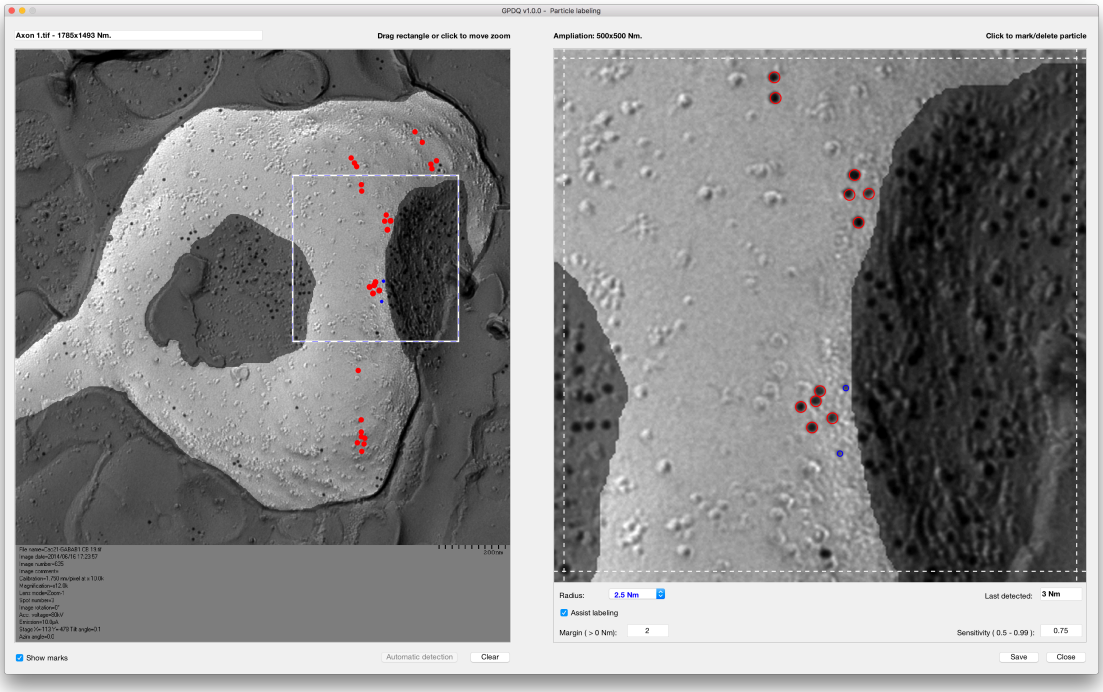

Figure 3.4. Section labeling with `sectionLabeling()`.

CHAPTER 4

Code

Packages

CHAPTER 5

Creating New Modules

How specific modules can be created

CHAPTER 6

Credits

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