

## **Rock.AR2**

### **Quick Start Guide**

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If you consider that this software was useful for your research and publishes an article, please cite it:

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## How to run the application

Rock.AR2 was implemented using JAVA technology. In order to run Rock.AR2, you must have JAVA installed in your computer. You can download JAVA from here <https://java.com/en/download/>. To execute Rock.AR2 open a console windows (or terminal if you are using Linux), go to the folder where the file RockAR2.jar is located and execute the following command: `java -jar RockAR2.jar`. If everything is fine, the application should run after this.

## How to use the application

Rock.AR2 is divided into two windows, the Point Count Window (PCW, Figure 1) and the Result Window (RW, Figure 2). The PCW is where you are going to associate points with minerals and in RW you will see an overview of the point count process with the minerals involved and the results. PCW is the main window and RW works as a supplementary one.

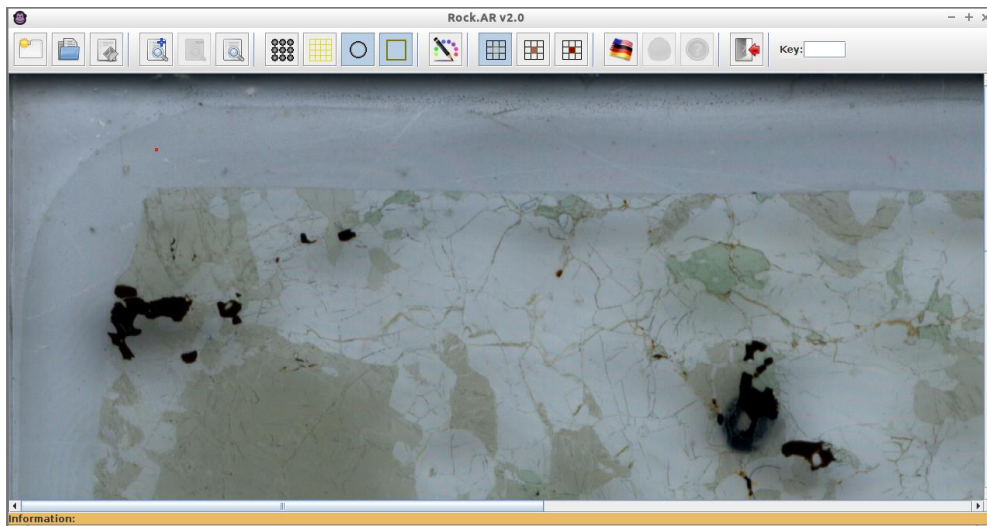


Figure 1. The Point Count Window (PCW) with a mineral thin sample loaded.

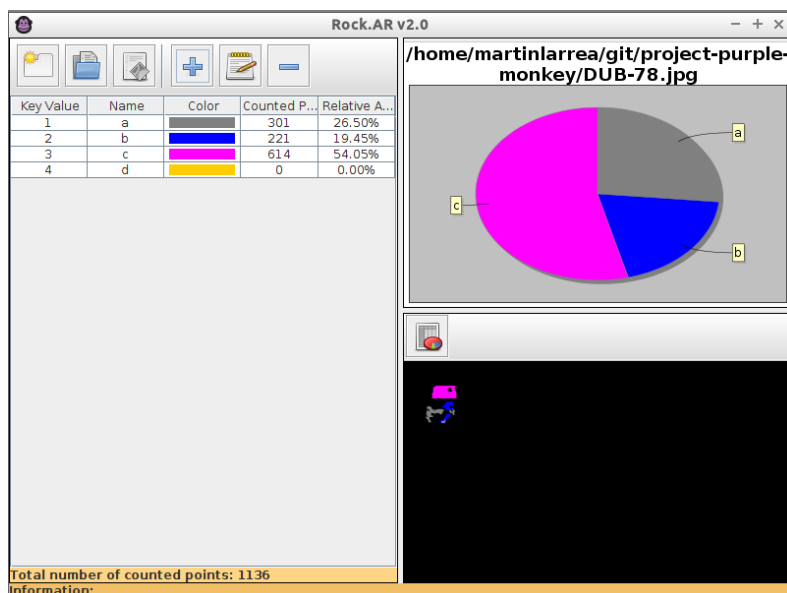




















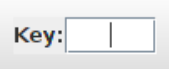
Figure 2. The Result Window (RW) with an overview of the counted points, its distribution and partial results.

PCW contains a toolbar on top, and the viewer of the thin section as the main panel of the window. The buttons in the toolbar work as follows:








	<b>Start New Work:</b> This button allows you to start a point count process from zero. It will ask you to choose the image to load, and the size of the overlay grid. The grid is always composed of square cells, so only the number of columns is requested. Based on this value, the best value is chosen so that a square cell is achieved. This means that if you enter 200, that does not mean that the grid will have 200 columns.
	<b>Open Saved Work:</b> This button allows you to load a previously saved work. This action will load the mineral image with the created grid and the used mineral list.
	<b>Save Work:</b> This button allows you to save the current work, so that you can continue later. The file that is created after this action contains references to the mineral thin section and the mineral list file. It doesn't contain the image itself or the mineral list. Do not remove or change the location of the thin section or mineral list.
	<b>Zoom In:</b> Increase the zoom on the thin section.
	<b>Zoom Out:</b> Decrease the zoom on the thin section.
	<b>Reset Zoom:</b> Return the image to its original size.
	<b>View/Hide Points:</b> This toggle button allows you to show all points in the grid, or hide them.
	<b>View/Hide Cells:</b> This toggle button allows you to show all cells in the grid, or hide them. A Cell contains a point, which is in the center of the cell.
	<b>View/Hide Selected Point:</b> This toggle button allows you to show the selected point, or hide it.
	<b>View/Hide Selected Cell:</b> This toggle button allows you to show the selected cell in the grid, or hide it.
	<b>Color Configuration:</b> The color of the points, cells, selected point and selected cell can be modified. Click in this button to choose each.
	<b>Don't Show Colors:</b> Each counted point has a mineral associated with it, which in turn has a color. It is possible to paint the cells of the counted points with the color paired with the mineral. Click this button to hide those colors.
	<b>Show Transparent Colors:</b> Click this button to paint the counted cells with the color paired to the minerals. The cells are painted with 50% transparency.
	<b>Show Colors:</b> Click this button to paint the counted cells with the color paired to the minerals. The cells are painted with opaque colors.
	<b>Language:</b> Rock.AR2 support multiple languages. To see the available options, click this button.
	<b>Not Available Yet</b>

	<b>Not Available Yet</b>
	<b>Exit:</b> Click this button to close the program. Both windows will be closed.

The top bar in PCW ends with a text field label “Key”. This input field allows you to associate a mineral with the selected point in the grid. Each mineral is entered through its key value, which can be found in the mineral table in the RW.

	<b>Input Key:</b> This field allows you to enter a mineral's key value. The field only allows integer values.
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The RW is divided into three panels. The main one (the one on the left) handles the mineral list, for each mineral it shows a number, the name of the mineral, the color assigned to it, the total number of point counted as that mineral and finally, the percentage that this last number represents overall the counted points. The right side of the RW is divided in two, the top part features a pie chart visualization of the counted points and the bottom part gives an overview of the counted points in the sample. Both visual representation use the color assigned on the mineral list.

	<b>Create New List:</b> This button deletes the current list and starts a new blank one.
	<b>Open Saved List:</b> This button allows you to load a previously saved list. If a list is already loaded, it will be replaced.
	<b>Save List:</b> This button saves the current list to a file.
	<b>Add New Mineral:</b> Click this button to add a new mineral to the list. The Key Value is assigned automatically. Only the name and color can be modified by the user.
	<b>Modify Mineral:</b> Click this button to modify the mineral selected on the list. Only the name and color can be modified by the user.
	<b>Remove Mineral:</b> Click this button to remove the mineral selected on the list.
	<b>Save Overview:</b> Click this button to save the overview image as a PNG file.

The Pie Chart can also be save as a PNG file. In order to do so, right click on the graph and and select “Save as”.

### Some important remarks

When you save your work, a RCK file is created at the location specified in the save dialog window. A RCK file contains the counted points, the size of the grid, a reference to the image used and a reference to the mineral list file used. It is important to emphasize that this

last two are references. The image of the mineral thin section and the mineral list are not saved inside the RCK. If you save your work and then delete or move the mineral image or the mineral list file, the RCK file will not work in Rock.AR2. Also, the references in the RCK are absolutes, this mean that if you want to work on a different computer, the RCK, mineral image and mineral list file must be in the same folder location.

### The Point Count Process

Points in the overlay grid can only be classified by assigning a numerical key value to each mineral present in the sample investigated by the user.

To do so, first you must create a mineral list in the RW screen. Afterwards you will have to select each mineral with a click and type the corresponding key value you assigned to it in the RW screen and press Enter to confirm. In this way the mineral and the key list will be associated. The mineral list, the pie chart and the overview will be automatically updated.

Once you select a point in the grid, you can move to other points by using the arrow keys. Suppose that you selected a point and entered the key value 2, as Figure 3 shows. Notice that in this case, the option that shows the color of the counted points with transparency is set. If you move to the right with the arrow keys, the previous key value is copied into the next cell and assigned to its point. This works in any direction, as long as you use the arrow keys. This feature is intended to facilitate the counting in large areas. Figure 4 shows the result after six movements to the right and two up. To change the associated mineral of a counted point, just select it, delete the key value using Backspace, type the new one, and press Enter. If you want to stop counting a point, select it, delete the key value with Backspace and press Enter.

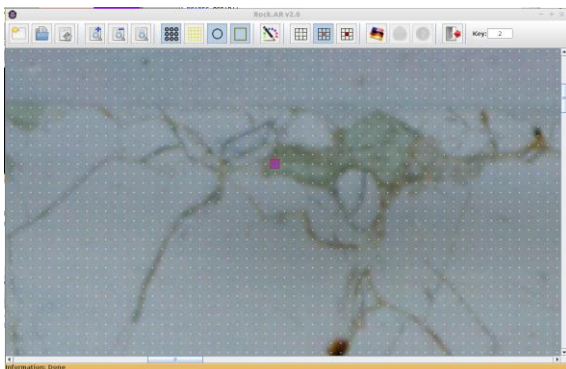


Figure 3.

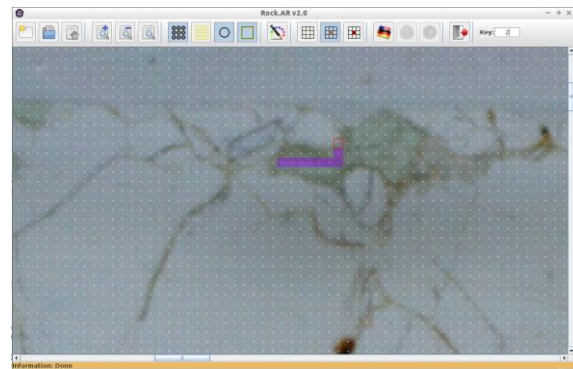


Figure 4.