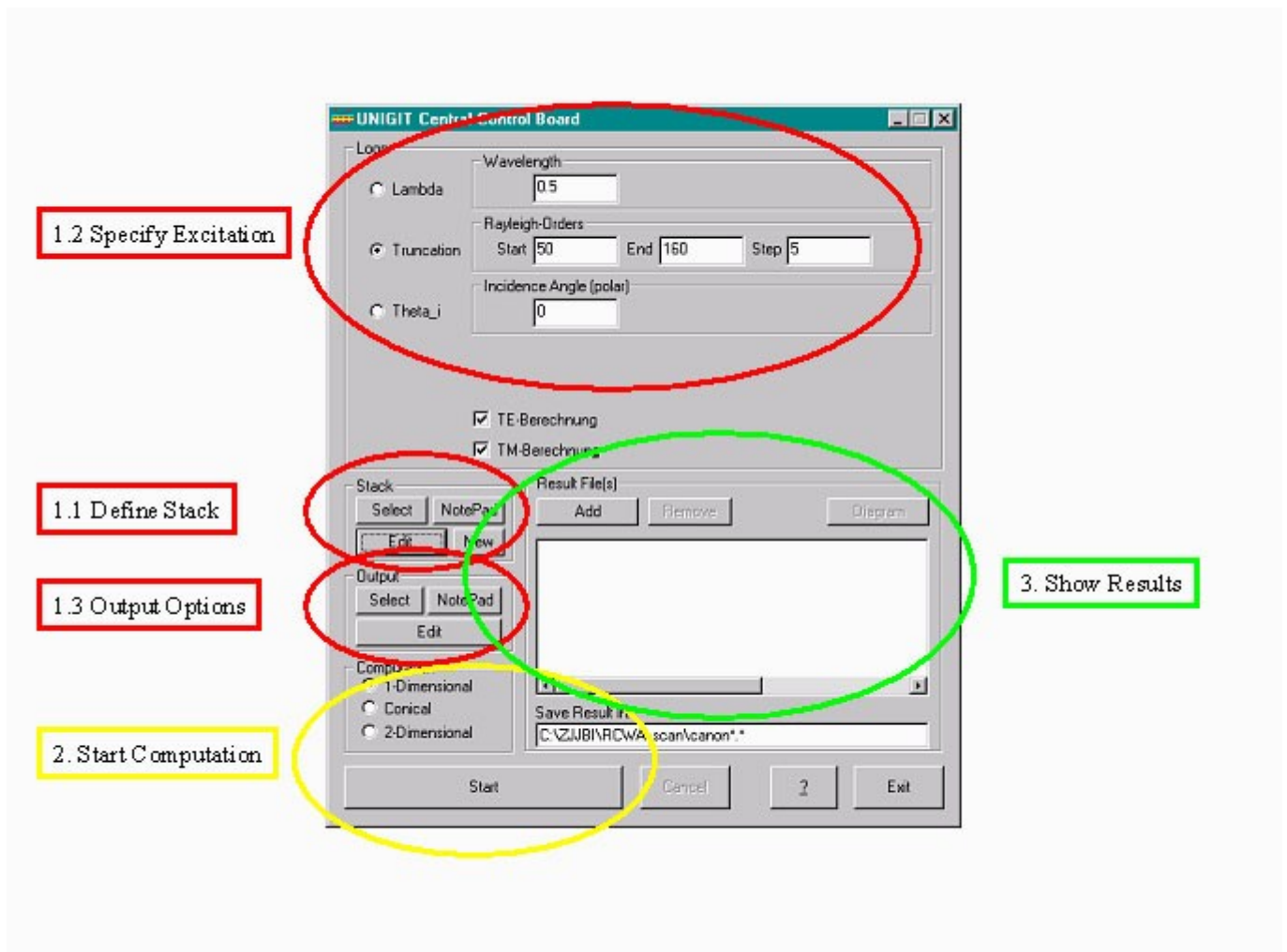


Quick guide for using UNIGIT

In order to run UNIGIT, one has:

- First, to describe and to input the [diffraction problem](#).
- Second, one shall [start the computation](#).
- Eventually, the last step is the reviewing of the [results](#).

After starting the code it comes up with the so-called Central Control Board shown below.



Formulating the Diffraction Problem

First, the optical problem or task has to be formulated and to be rendered to the corresponding input tables of the program. Here, mainly three issues have to be obeyed, namely

- First, the [Stack](#) has to be defined.
- Second, the [optical excitation](#) has to be specified.
- Third, the way how the [results](#) shall be output has to be determined.

Define the Stack

The patterned multilayer stack embedded between superstrate and substrate has to be specified: To this end, you can either select an existing stack file by means of the **SELECT**-button or start building a new stack by clicking the **NEW**-button in the group area **STACK**. Of course, you can also modify an existing file by clicking the **EDIT**-button. Depending on whether you decided to perform a 1D or 2D calculation the appropriate Stack editor is launched (The same happens of course when you clicked the **NEW**-button.). If the selected file does not match, an error message occurs.

Specify the Optical Excitation

In this second step, the optical excitation conditions (wavelength, incidence angles, polarization) have to be set: Select the loop you want to have with the radio button in the upper left of the Central Control Board and input the values for:

- Wavelength,
 - Truncation order (i.e., number of Rayleigh orders to keep during calculation),
 - Polar incidence angle (in degrees),
 - Azimuthal incidence angle (in degrees) – only available for conical or 2D case
- Under certain circumstances a loop over an arbitrary stack parameter may be offered. In the classical 1D-case you can also select the polarization (either TE or TM or both) by fill in the corresponding control fields appearing instead of the azimuthal angle option.

Select the Data Output Options

Finally, the manner in which the computed results shall be generated (e.g., which diffraction orders shall be output, what values shall be output, e.g. efficiency, amplitude or phase and so on) has to be determined: This job is done by means of the Output Editor. In similarity to the stack editor, you can select a certain configuration with the **SELECT**-button in the group area **OUTPUT**. If you intend to change the configuration click the **EDIT**-button and the Output Editor is launched. Now you can make your choice and eventually return to the CCB. Then, enter the complete path name of the output file in the input mask for saving results (lower right). In case you decided to write to one file for each selected diffraction order an appropriate specification is appended automatically.

Start the Computation

Subsequently, the computation is launched by activating one of the three options:

- classical 1D
- conical 1D
- 2D

in the lower left radio button field and clicking the **START**-button below. Before hitting the button, make sure that the wanted stack-file is selected complying with the computation mode (1D or 2D). Otherwise an error message will occur. During computation, a DOS-window appears which may show additional information about the state of numerical calculations. The **START**-button will be replaced by a progress indicator. After having completed the task, the **START**-button appears again and the required computation time is displayed above the button.

Show the Results

Finally, the results of the computation cycle can be visualized by means of a graphical diagram window. To this end, the respective result files must be selected by means of the **ADD**- or **REMOVE**- buttons in the group field **DIAGRAM** and the graphics must be activated by clicking the **DIAGRAM**-button.