

## Results of 'Design a batch' main function

The results are presented in a window (Figure 1) with an extended menu bar, followed by the results table containing the batch properties and in the lower part can be found a comparison of the model and batch particle size distributions.

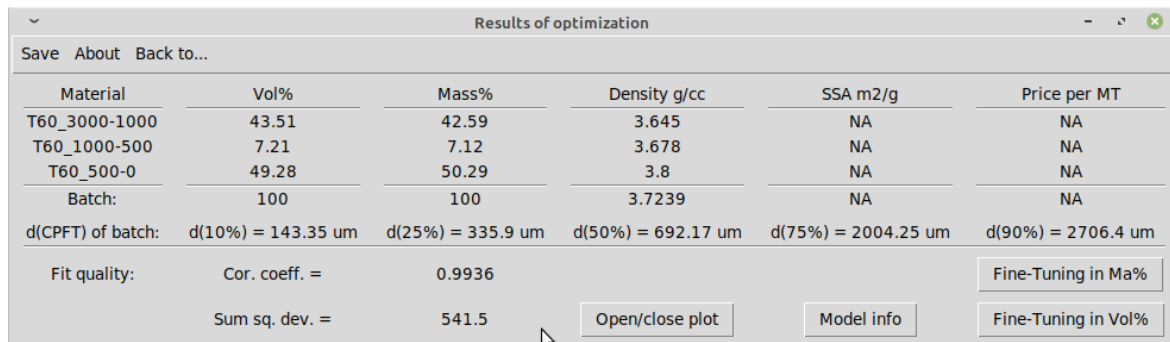


Figure 1: Results window

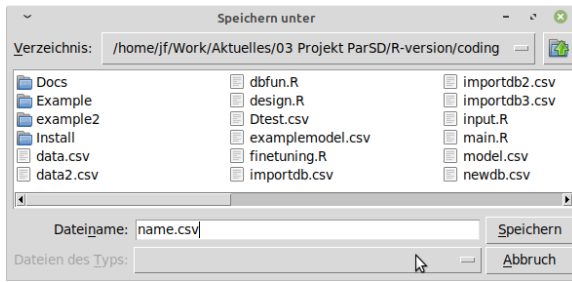
The menu item 'Save' gives the user the possibilities to save the...

- recipe, which is a subset database containing the materials used for the present calculation. Has to be saved as CSV file in the Save-As window by adding the file extension to the filename as shown in Figure 2(a).
- batch, which is the table shown in the results window giving the contents of the materials. Has to be saved as CSV file in the Save-As window by adding the file extension to the filename as shown in Figure 2(a).
- model (comparison), which is the lower part of the results-window including information to the model (type and parameters). Has to be saved as CSV file in the Save-As window by adding the file extension to the filename as shown in Figure 2(a).
- graph, as adjusted and displayed by the 'Open/close plot' button. Has to be saved as PNG file in the Save-As window by adding the file extension to the filename (cf. Figure 2(a)).
- complete results (recipe, batch, model (comparison) & plot). In this case, a folder will be created into which the four files will be put. The user is asked to give the parent folder into which the new results folder should be placed (Figure 2(b)) and then to give a name for the results folder (Figure 2(c)). If a folder with this name already exists, the user is informed but can decide to overwrite the contents (Figure 2(d)).

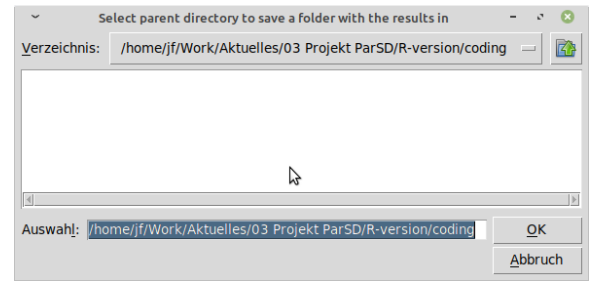
Coming to the results table (cf. Figure 1), there the materials with their contents in vol% and wt% in the batch are listed together with information from the database if saved there. The last line shows the calculable batch properties. For the batch, furthermore, the describing d(CPFT) values are given to summarize the properties of the batch particle size distribution.

In the lower part of the results window (Figure 1), the quality of the fit is evaluated. The user can evaluate it visually by plotting the CPFT curves (Figure 3). The quality of the fit is moreover described by two numbers. Firstly, by the correlation coefficient ( $\leq 1$ ) for the correlation between the batch-CPFT(d) values and model-CPFT(d) values for which '1' would describe a perfect fit. The second value is the sum of the squared deviations of the batch-CPFT(d) from the model-CPFT(d) for all component sizes d. Furthermore, the model information (type and parameters) can be presented (Figure 4) by clicking on the button 'Model info'.

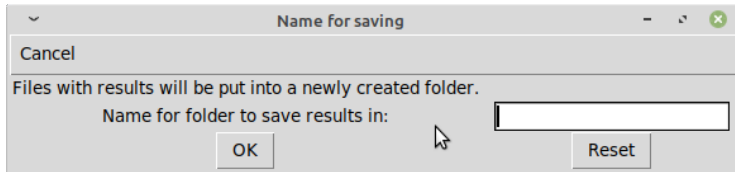
Further-on, the two fine-tuning buttons lead the user to results dialogs with (1) more information presented and (2) with the possibility to re-adjust either the vol% or wt% values and re-calculate the



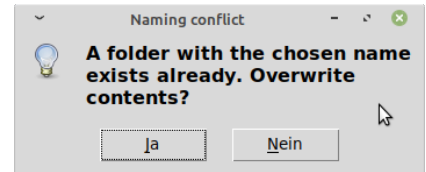
(a) Save-as dialog



(b) Select parent directory



(c) Name results-folder



(d) Select parent directory

Figure 2: Save results

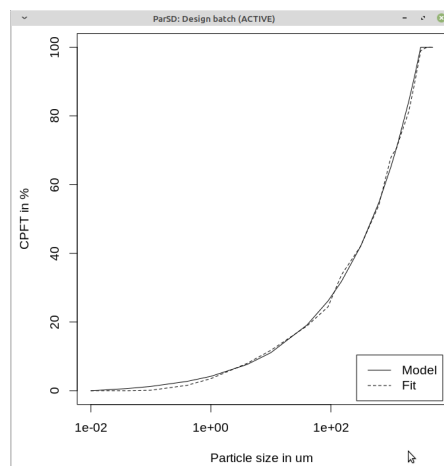


Figure 3: Plot results

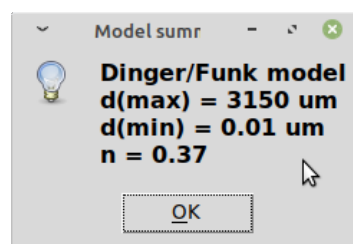


Figure 4: Model info

fit for the new parameters. By this for example differing accuracies for different raw material types (aggregates, additives, ...) can be adjusted.