

## Overview

ChiSurf can manage a large number of loaded data files for a joint (global) analysis and supports several experiments, setups, and data-types. Most setups have a particular list of options. Before loading new data into the program the experiment, setup, and the data file options have to be specified. These parameters are discussed below in detail for [TCSPC](#) and [FCS](#) experiments.

The “Dataset” window usually manages the opening of data files for ChiSurf. To load a dataset into the program first select experiment using the “Experiment” drop-down menu. Next, choose the setup and ensure that the options of the setup match your data file (see Figure 1). Finally, there are three options to load data files:

Via drag-n-drop

By the “add dataset” button / menu

Or by the command line interface

To load files via drag-n-drop (1) select the respective files in the “Explorer” and drop it into the lowermost region labeled “Loaded Datasets” of the “Datasets” window. (2)

Alternatively, the files are loaded using the “add data” button or the keyboard shortcut

“Ctrl-N.” Finally, data files may be loaded using the command line interface by the command “`cs.add_dataset(filename='path_and_filename')`”. Details on the command line interface are given [here](#). The recommended procedure to load data files is by drag-n-drop. The sections below discuss options of potential relevance to open data files of [TCSPC](#), [FCS](#), and [TTR](#)-experiments.

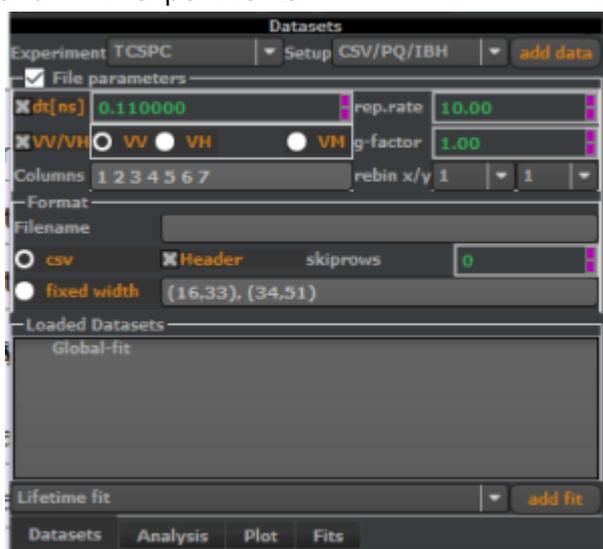


Figure 1. The data set window consists of three areas. To the top two drop-down menus define the experiment and setup type. In the middle options specifying the data format are shown if the option “File parameters” is checked. To the bottom a list display all loaded data sets. Its contains by default a “global” dataset.

## TCSPC-Files

The most common file format

## CSV-Files

The following links provide three sample files recorded on an IBH machine ([Decay](#), [IRF](#), [CW-](#)

light). Below a small excerpt of one of these decay files is show. These files are standard text files and can thus be opened in any text editor.

```
Item name: Decay  
Real time: 362.06  
Live time: 155.88
```

Comment:

Chan Data

```
1 0  
2 0  
3 1  
4 2
```

The first seven rows are these files are the header followed by two columns separated by spaces. These columns correspond to the "channel number" and the counts per channel. In time-resolved fluorescence detection, the photons are usually binned in "channels." Each channel corresponds to a time since the excitation. The counts per channel are the sum of all photons detected at a given time. If channel numbers are given as a time axis the channel-width, i.e. the time  $\$dt$ " between the channels has to be provided before loading the decay curve. The channel-width, which is multiplied with the channel-number to yield a time axis, is specified by the field next to the "dt" label. If the file contains a time axis the "dt" field should not be checked. In addition to the time axis the repetition frequency, i.e. the rep. rate, of the laser should be provided.

If the checkbox "VV/VH" is checked the data is expected to consist of two vertically stacked fluorescence decays, one for parallel (VV) and one for vertical (VH) detection. No time axis is expected when using the VV/VH-option. Hence, the bin-width "dt" must be provided. Four options are available to load VV/VH-files: (1) VV/VH, (2) VV, (3) VH, and (4) VM. The first option loads both decay into one

**Becker-Hickl SDT  
Grouping of data**