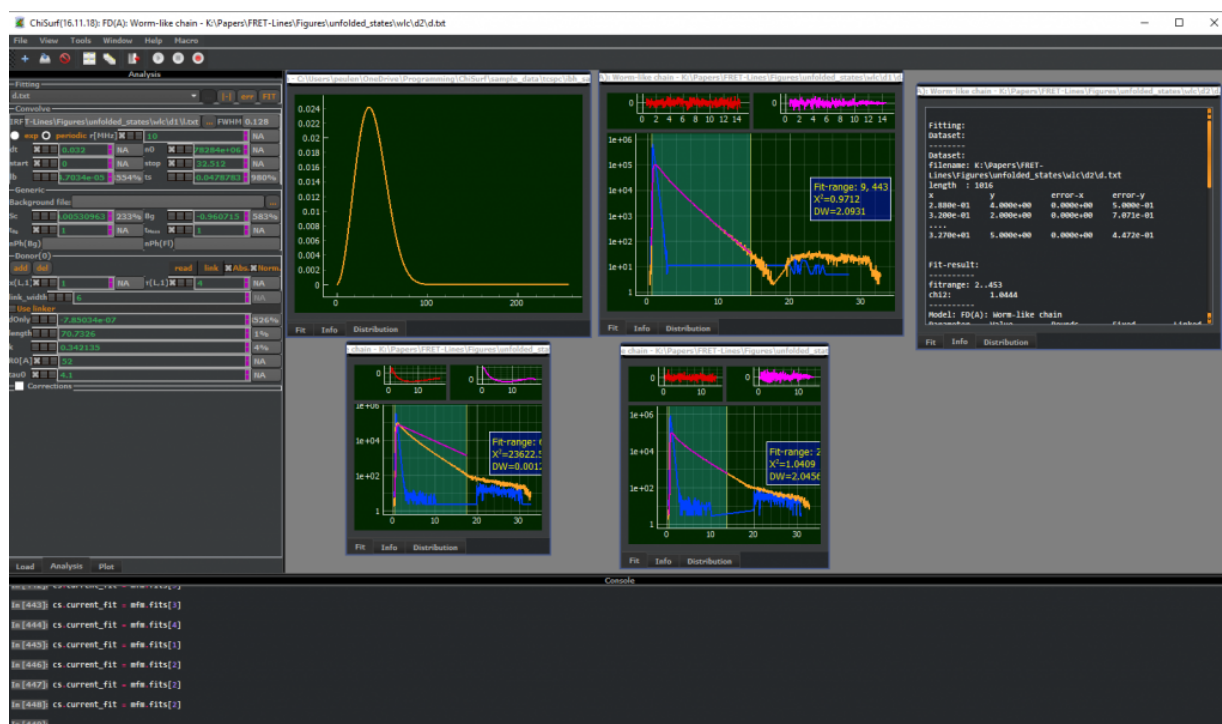


Description

ChiSurf is a software package for the analysis of complex fluorescence data acquired in time-resolved single-molecule and ensemble fluorescence experiments. The main feature of ChiSurf is the joint (global) analysis of multiple datasets.

The original of ChiSurfs was to estimate errors of model parameters of fluorescence intensity decays in Förster-resonance energy transfer (FRET) experiments for FRET-driven structural models of protein and other biological macromolecules. It started as a collection of python scripts. With time more features were added, e.g. the analysis of correlation curves, correlation of time-tagged-time resolved (TTTR) data. A graphical user interface makes these scripts and tools available for users without programming experience.

Overall, ChiSurf is highly experimental and its core is still heavily refactored. Consequently, features, which worked in old versions, may be not supported in newer versions, unless users explicitly demand these functions.



Features

General features

- Scripting interface and open API
- Interactive analysis of multiple datasets
- Combined analysis of different experimental techniques

Global analysis

- Analysis of multiple data sets by joint model function freely defined by the user
- Freely definable models for FCS analysis & adaptable models for fluorescence decays analysis

Fluorescence decay analysis

- Global analysis of multiple fluorescence decays
- Generation of fluorescence decay histograms based on TTTR data
- Analysis of time-resolved anisotropy decays
- Analysis of FRET quenched fluorescence decays by physical model functions ¹

Fluorescence correlation spectroscopy

- Analysis of FCS curves
- Correlation of TTTR-data by efficient correlation algorithms ²

Simulation of fluorescence observables

- Kappa2 distributions based on residual anisotropies³
- Simulation of fluorescence quenching in protein by aromatic amino acids¹
- Simulation of FRET rate constant distributions based on accessible volumes⁴

Download

To download ChiSurf, please provide your name and email address below.

By downloading and using ChiSurf, you agree with the following terms:

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You can download ChiSurf from the [Download](#) page.

Github

As part of the effort for open software for fluorescence analysis, ChiSurf is also available on github

<https://github.com/Fluorescence-Tools/ChiSurf>

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