ORIGIN INTRODUCTION

Jan Helbing, Feb. 2014

GENERAL INFO

COMPUTERS

-user : prak1, prak2,… as written on the screen/computer (cge1, cge2, … in teaching room)

-login : user followed by pwd (e.g. prak1pwd)

SERVER

\\pcipdc.uzh.ch\praktikum

Should be automatically linked to all Computers in the course

Read and write for everyone!

Create your own directory and respect that of others

INSTALLATION

Download the .zip file and the .pdf instructions (only for Windows!)

Follow the instructions and use a vpn connection at home to run (license server)

500+ licenses for the MNF of UZH

USING ORIGIN

Open Origin

Import single asci file (biexp with a number)

Plot data as points

FIRST FITS

Analysis –Fitting – Nonlinear Curve Fit

Select Fitting function, look at fitting function, look at parameters

Look at output, Parameters, Residuals

Repeat fitting with **fixed parameters** (e.g. offset y0):

In fitting window: Parameters, tick 'fixed' and enter or change the value

Limit (set) the data range:

In fitting window: Data Selection – Input Data – Range (1), drag on graph and double-click

Derived Prameters:

In fitting window: Code – Derived Parameters

Show different parameters (e.g. Confidence intervals):

In fitting window: Settings – Advanced – Quantities to Compute, tick 'LCL' and 'UCL' and set level of confidence

DATA MANIPULATION AND LAYOUT

Double-click on data in graph and select 'workbook' to see data

Same window can be opened via Format – Plot Properties

Here you can change the style of the plot

Clicking on axes allows you to use log-scale or inverse scales

Merging graphs:

Graph – Merge Graph Windows

At first, a picture with all open graphs merged is shown. You can select 'Specified' and delete those you do not want to merge

Link plots:

Graph – Layer Management, go to 'Link' and link the x-axes (for example)

Changing the scale for one graph will now also change the scale fo the other

The same window can be used to rearrange merged graphs, for resizing you can also use

Format – Layer Properties

Define your own fitting function:

Fitting – Nonlinear Curve Fit – Open Dialog

In fitting window: Settings – Function Selection, choose Category '<New..>'

Give a name, select parameter names

(try exponential plus linear)

Simultaneous fitting:

Open new Workbook

Import multiple asci files (chose import option New Columns)

Look at parameters.dat to select similar time constants

Rename data sets so they can be distinguished

Open exp. Fitting session as usual

In fitting window: Settings – Data Selection, click arrow to the right of 'Input Data' to add second data set

Under Multi-Data Fit Mode chose 'Global Fit'

Go to Parmeters and select shared parmeters (t1, t2)