Intermediate Lab

PHYS 3870

CONVEYIMG INFORMATION

Gathering Information

Installing and Using DataThief

References:

PHYS 3870 Web Site

USU Library Class Web Site

DataThief Manual
DataThief Web Site

UtahState UNIVERSITY

DataThief

DataThief III is program to digitize data in various forms for subsequent plotting and analysis. It is often used to "borrow" data from scanned graphs in articles. DataThief is a "free" shareware program and is very easy to use.

The presentation includes:
- *Instructions on how to download and install the program and where to get supporting documentation.*
- *A detailed set of instruction on how to use the program to digitize data from a picture of a graph.*
- *A simple example of acquiring digitized data from a photograph .*

A simple exercise in use of DataThief is described in the *file*
PHYS 2500 Sec5-Graphing DataThief Exercise.ppt.
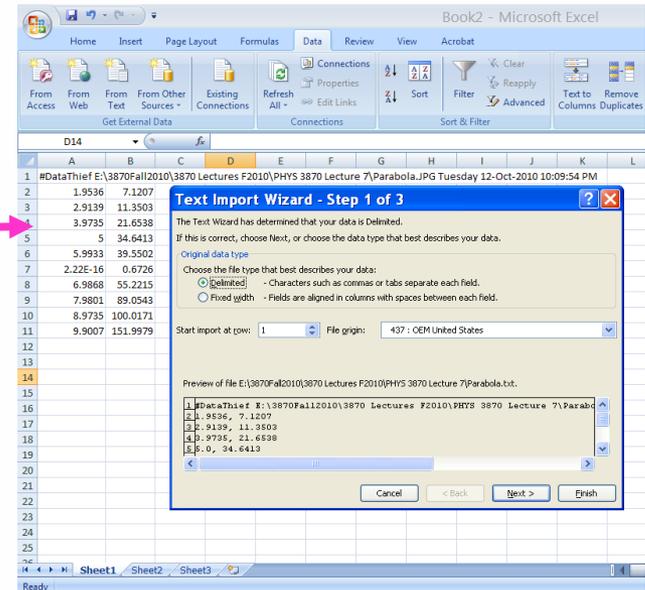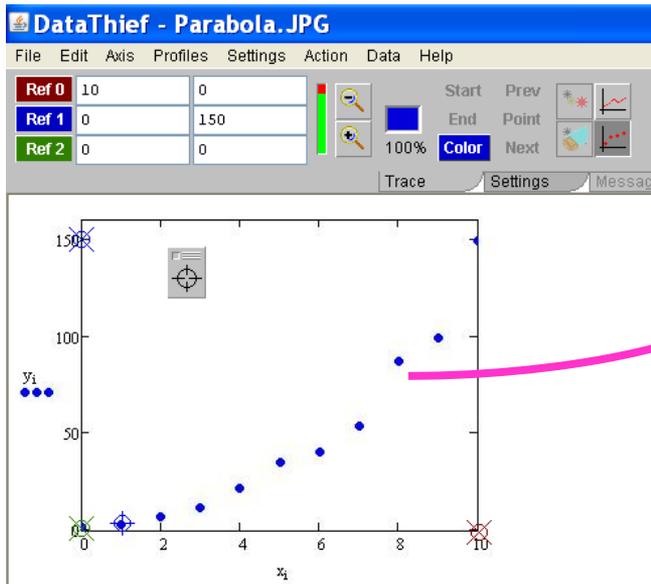
Acquiring DataThief III

DataThief III is already installed and running on the PHYS 2500 CITRIX page.

To acquire and install your own copy of the shareware program DataThief III and its accompanying documentation, simply follow the numbered steps listed here.

(2) Review the program Description

(3) (Download Java as well, if you need it.)

Download the executable program file Datathief.jar by

Clicking here

(4) Download the manual

(5) Review some examples, if you like.

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datathief.org

AM & FM Radio St... | Facebok | Inbox - Outlook W... | Dell Start Page | MEMS Specialty Fi... | Other bookmar

DataThief - example.jpg

Welcome to DataThief

(1) Go to Datathief.com

What is DataThief III

DataThief III is a program to extract (reverse engineer) data points from a graph.
Typically, you scan a graph from a publication, load it into DataThief, and save the resulting coordinates, so you can use them in calculations or graphs that include your own data.

What is new in DataThief III?

- It is written in Java, it runs on Windows, Unix, Macos...
- It is capable of tracing any more or less continuous line, even when the line crosses itself.
- It can convert data from numeric format to any other format, for instance dates.

- It is shareware. If you use DataThief, please buy the shareware registration key from KAGI.

Download and installation

Installation is slightly different for various platforms (and for various browsers):
But on all platforms you will need a Java Runtime Environment (JRE).

Windows

You can download a JRE from http://java.sun.com
The current version is JRE 6.0

Once you have a JRE, you download Datahief.jar, but take care that the file is saved as Datathief.jar; my windows (XP) offers to save the file as Datathief.zip.

Datathief.jar
You can start DataThief by double clicking Datathief.jar

The manual

Even though the aim has been to create an easy to use tool, DataThief III has many possibilities that are hard to understand without the manual. So we urge you to download it.
DatathiefManual.pdf

Examples

The graphs that are used as examples in the manual are

The first example

example.jpg

Orientation to DataThief III

DataThief III is written in Java. This means, that apart from the "executable" called *Datathief.jar*, you will have to have the Java Virtual Machine. The Java Virtual Machine can be downloaded from *www.java.com.* Follow the instructions that are appropriate for your machine.

Once the virtual machine is installed, you may start DataThief.
- **On Windows, double click the Datathief.jar icon.**
- **On Macintoshes with MacOS 8 or MacOS 9, double click the Datathief application icon.**
- **On Macintoshes with MacOS X and on Linux or Unix either double click the Datathief icon, or go to the directory where you installed DataThief and type Datathief.**

Once you have a running DataThief, select "Open..." from the File menu, and select the file you want to take data from. In this example, we used "example.png". Key features of DataThief are shown below.

3 point indicators used to find the corresponding coordinate indicator

tool bar

menu bar

"Dump", used to define data points

3 coordinate indicators have an X through there center

White area with the image in it is the image area
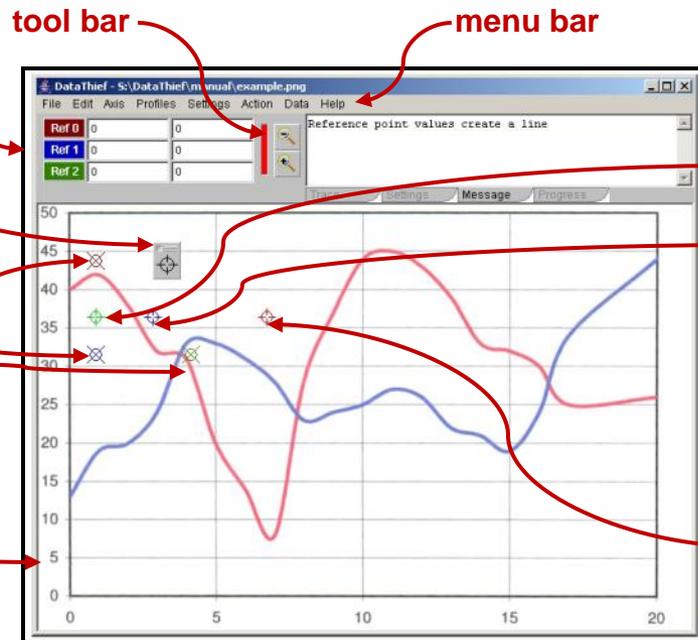
Start location indicator (green with a + through its center)

Color location indicator (blue with a + through its center)

Stop location indicator (red with a + through its center)

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WRITING REPORTS

Lecture 6   Slide 4

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DataThief in Action

To use DataThiefIII to digitize data from a graph:

(1) Open DatathiefIII.

(2) Select an image file using Open from the File menu.
Allowed file types include gif, jpg, and png.

(3) Select whether to digitize a point graph or line graph

(4) Define the graph axes by tagging 3 axis coordinate indicators by dragging and dropping the 3 circled X icons onto the axes points and entering the corresponding numerical values.

Note: If the 3 axes points are not visible on the graph, select Reset from the Actions menu. Click a colored button (e.g., Ref 0) to flash the corresponding axis point

Note: For pictures you can use this to put the digitized values in the correct units if you know the values of these three points.

Note: This can correct for skewed axes by selecting non-orthogonal axes.
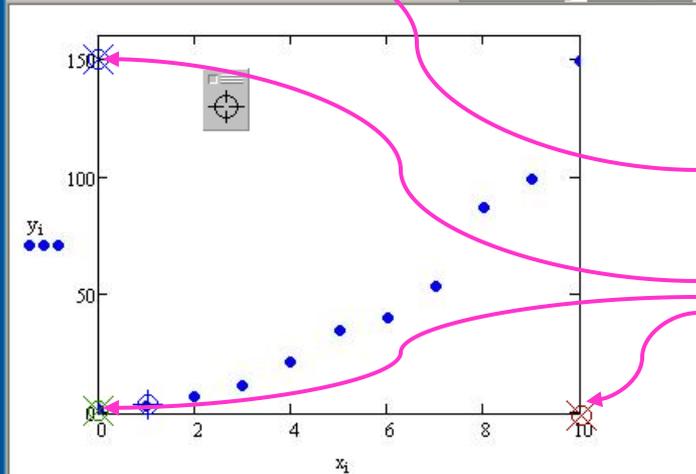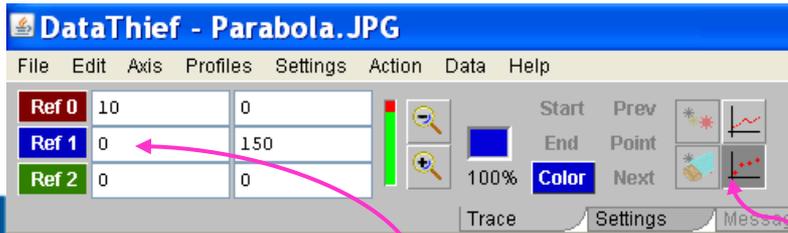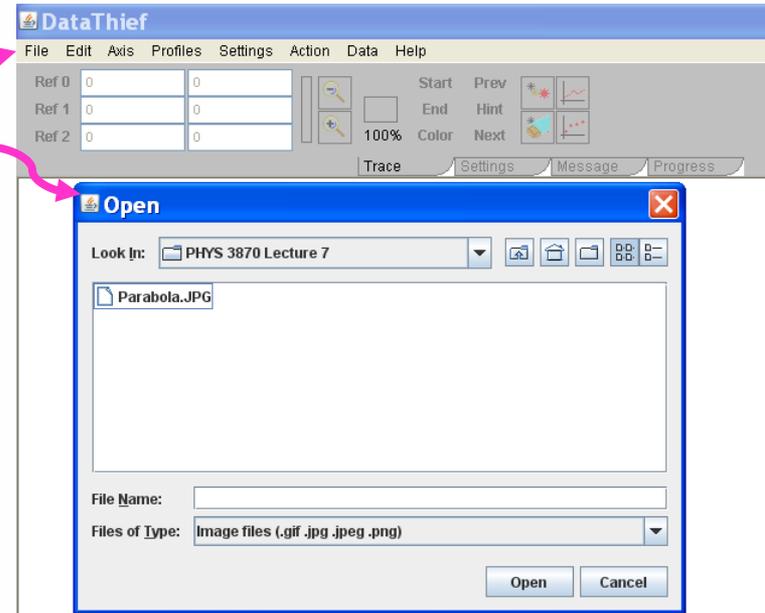
Setting DataThief

Simply follow the remaining numbered steps listed here.

(7) Export
The data to a file using the File menu
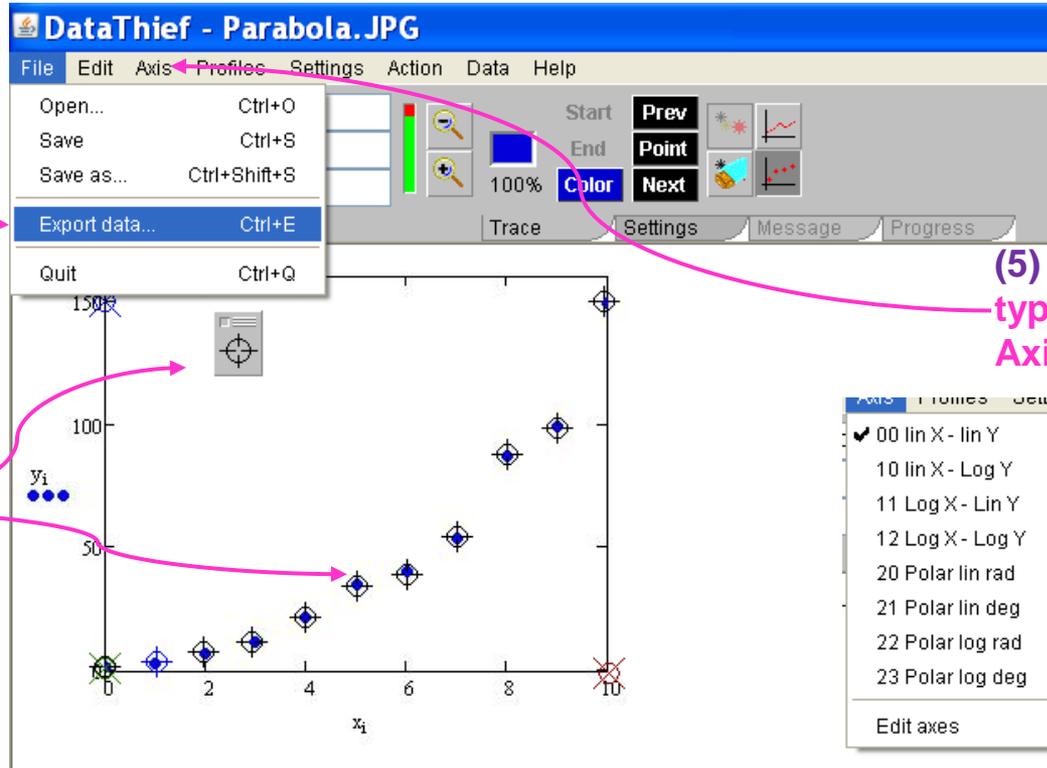
(5) Select axes type using the Axis menu

(6) To "borrow" discrete data points, select the *Point* mode icon and then tag each data point by dragging crosshairs from the "Dump" on top of the point

(5 Alternate) To "borrow" data from traces (lines):
- **Select the *Trace* mode icon,**
- **Tag the beginning and end of the trace to "steal" with the green and red icons, respectively**
- **Set the color of the line by dropping the blue icon on a well isolated portion of the trace**
- **Use the three point indicators "*Start*", "*End*" and "*Color*" to locate the icons to drag.**
- **The density of data points digitized can be adjusted using the "*Output Distance*" selection from the *Settings* tab.**

Reading DataThief Txt Files

(8) Read into an Excel file as comma delimited text using the Excel Text Import Wizard called up from the "From Text" icon on the Data ribbon in Excel.