

# WinNFLP Manual

Version 1.4

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## INTRODUCTION

WinNFLP is a Windows GUI for convenient use of NFL programs (Correct, RMC, USEFUL, etc.) in a MS-Windows environment. This manual describes installation and running of the WinNFLP program. For other NFL programs see separate documentation. WinNFLP can be downloaded from the Studsvik ftp-server <ftp://ftp.studsvik.uu.se/pub/WinNFLP>. The `nflp_windows_exe.zip` file contains the WinNFLP program itself as well as various NFL programs and additional files.

Please report bugs and comments to [møller@studsvik.uu.se](mailto:møller@studsvik.uu.se)

### Changes from version 1.3

- New versions of many USEFUL and RMC programs, be careful with new input/output formats.

## INSTALLATION

For a new installation extract `nflp_windows_exe.zip` (**KEEP FOLDER NAMES!**) into suitable directory. If installed to `c:\nflp` (so that all files are in `c:\nflp` or below) everything should hopefully work right away. You might have to edit the `NFLP_logicals.ini` file so that the environment variables to be defined point to the correct directories/files.

For local network users, if the WinNFLP package is already installed on another computer, create a local directory `c:\nflp` or similar and make a shortcut to the remote `WinNFLP.exe`, then edit the shortcut to start in your local `c:\nflp` directory. A similar procedure applies to running the program from a CD (if you don't want to copy the executables to your hard-disk).

## RUNNING THE PROGRAM

To run the program simply open the WinNFLP or shortcut icon. The first time the program is started a new file `WinNFLP.ini` is created in the directory where the program starts. This file will contain the latest working directory path for easy re-start. At each new start the working directory will be asked for, select any file in the desired directory. Programs are then accessible from the drop-down menus and the command line.

## ACKNOWLEDGMENTS

The PGPLOT © [1] and PGXTAL © [2] packages (with some minor modifications) are used for all 2D and 3D graphical output. A number of numerical algorithms from Numerical Recipes [3] are used in modified forms. Following is a (incomplete) list of the persons contributing to the original code used in the various programs:

A. Hannon, M. A. Howe, D. Keen, R.L. McGreevy, A. Mellergård, L. Pusztai, P. Zetterström, A. Wannberg, J. Wicks.

## **MENU DESCRIPTION**

### **FILE MENU**

#### **DIRECTORY**

Change the working directory.

#### **OPTIONS**

Opens a dialog to change the values of environment variables (see below). On exit of this dialog there is an option to save new values to NFLP\_logicals.ini. If you are using a network shortcut a local copy will be saved. The reset button will reset all values to the default in the main NFLP\_logicals.ini file.

#### **COM**

Run a command file with NFL program calls.

#### **EXIT**

Exits the program.

### **CORRECT MENU**

#### **PREP1, CORRECT and PREP2 items**

Run the relevant program.

### **EDIT MENU**

#### **\*.\***

Selecting this item allows you to browse and edit a file. Your favorite editor can be set by editing the EDIT environment variable in NFLP\_logicals.ini or from the FILE: OPTIONS menu item.

#### **TEMPLATES**

This item gives access to template forms of input files to various NFL programs.

#### **TABLES**

This item gives access to tables for scattering cross-sections, crystallography etc. that are used in various NFL programs.

#### **SELECT TEXT etc.**

Standard cut-and-paste tools

### **USEFUL MENU**

#### **DATA**

Contains entries for programs to manipulate data files.

#### **CFG**

Contains entries for programs to create and modify atomic and spin configurations.

#### **ANALYZE CFG**

Contains entries for programs to analyze atomic configurations.

#### ANALYZE SCFG

Contains entries for programs to analyze spin configurations.

#### PLOT

Contains entries for programs to display data and configuration.

#### USER

Contains entries for programs that are in the USER directory as set by NFLP\_logicals.ini or modified using the FILE: OPTIONS menu

#### RMC MENU

Contains entries for MCGR and various RMC programs

#### CALIBRATION MENU

Contains entries for programs used for instrument calibration

#### HELP MENU

Contains entries for help documents. These are currently PDF documents and can be opened by right-clicking a document and then OPEN them (if you have installed Acrobat Reader).

### COMMAND LINE

NFL programs, or in principle any DOS command, can also be started from the command line at the > prompt. The DOS PATH is modified within the WinNFLP process to include all relevant directories in the NFL program suite.

### ENVIRONMENT VARIABLES

There are a number of environment variables that need to be defined in order to run some of the NFL programs. The default values are read from the file NFLP\_logicals.ini residing in the same directory as the WinNFLP executable. Some of the variables can be modified using the FILES: OPTIONS menu item. Optionally the new values can be saved. If you are using WinNFLP over a network (see above) a local copy of this file is saved to the directory that WinNFLP is started in. Following is a list with examples of the syntax used. Note that all variables that are directories must end with a \.

NDP\_FORMAT = TEXT

The file format for NDP data files (used by PREP1, CORRECT etc.), can be GENIE, DATA or TEXT.

SLAD\_CAL\_CUR = C:\Anders\SLAD\Cal\Mar01.prm

SLAD instrument calibration file.

SLAD\_RAW = \\R2exp1\SLAD1\

Location of SLAD raw data files.

NXSECTION = c:\NFLP\Tables\nxsection.dat

Neutron nuclear scattering cross-sections table.

MXSECTION = c:\NFLP\Tables\mxsection.dat

Neutron magnetic scattering cross-sections table.

XXSECTION = c:\NFLP\Tables\xxsection.dat

X-ray scattering cross-sections table.

DOUBLESCATTERING = c:\NFLP\Tables\doublescattering.dat  
A table for multiple scattering corrections used by CORRECT.

NFLP\_TABLES = c:\NFLP\Tables\  
Location of tables (such as the above) used by NFL programs.

NFLP\_TEMPLATES = c:\NFLP\Templates\  
Location of template forms for input files used by NFL programs.

NFLP\_DOCUMENTATION = c:\NFLP\Documentation\  
Location of help documents for NFL programs.

PGPLOT\_FONT = c:\NFLP\Tables\grfont.dat  
File containing fonts used by PGPLOT applications

PGPLOT\_DEV = /W9  
Default screen output device for PGPLOT applications

EDIT= C:\WINNT\SYSTEM32\notepad.exe  
Your favorite text editor. Used to open files with the items in the EDIT menu

USER\_PROGRAMS = c:\NFLP\UserPrograms\  
Location of user written programs. These can then be accessed from the USEFUL:  
USER menu item.

## REFERENCES

- [1] PGPLOT Copyright © 1983-2001 by the California Institute of Technology.  
<http://astro.caltech.edu/~tjp/>
- [2] PGXTAL Copyright © D. S. Sivia , 1997. PGXTAL. <http://www.isis.rl.ac.uk/dataanalysis/dsplot/>
- [3] W. Press, B. Flannery, S. Teukolsky and W. Vetterling, Numerical Recipes (Fortran) (1989), Press  
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