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Chapter 1

Introduction

Davinci is a free scientific software for the visualization and processing of single-crystal diffraction data measured with a point detector.

1.1   What Is Davinci For?

Davinci allows to obtain the squares of the structure factors (F_{obs}^2) based on the calculation of integrated intensities of the measured Bragg peaks. F_{obs}^2 are required for structure determination with the crystallographic software **FullProf**, **Jana2006**, **ShelX**, etc.

1.2   Davinci Features

- **Cross-platform**
  Davinci works across operating systems. You can download precompiled binaries of **Davinci Installer** for **macOS**, **Windows** and **Linux** operating systems, or you can get the source code and build the program yourself.

- **Easy to use**
  Intuitive tabbed interface helps to speed up the treatment of the complete dataset or individual peaks.

- **Various supported instruments**
  Davinci accepts the data from **POLI**, **HEiDi** and **MIRA** at **MLZ** as well as **6T2** at **LLB** and **TriCS** at **SINQ**.

- **Different peak integrations**
  The conventional and Lehmann-Larsen algorithms for the definition of the peak and background parameters.

- **Build-in text editor**
  Simplify the analysis of the experimental log and data files.

- **Multiple output formats**
  Davinci allows to save the modified input file (txt), extracted peak plots (jpg, pdf) as well as the hkl table (txt).

Chapter 2

Getting Started

This chapter is about getting started with **Davinci**.

2.1   Installing and Launching Davinci

Davinci works across operating systems. You can download precompiled binaries of **Davinci Installer** for **macOS**, **Windows** and **Linux** operating systems, or you can get the source code and build the program yourself.

Windows

- Visit the Davinci download page.
- Choose **Download for Windows.**
- Unzip the downloaded **DavinciInstaller** zip file.
- Double-click **DavinciInstaller.exe** and follow the instructions given by the installer.

macOS

- Visit the Davinci download page.
- Choose **Download for macOS**.
- Unzip the downloaded **DavinciInstaller** zip file.
- Click **DavinciInstaller.app** and follow the instructions given by the installer.
- If you see the message *"DavinciInstaller.app can't be opened because it is from an unidentified developer"*, do the following:
  - In the **Finder**, locate the **DavinciInstaller.app**
  - Control-click the app icon, then choose Open from the shortcut menu.
  - Click Open.
  - The app is saved as an exception to your security settings, and you can open it in the future by double-clicking it just as you can any registered app. More details at `https://support.apple.com/kb/PH25088`

Linux

- Visit the Davinci download page.
- Choose **Download for Linux**.
- Unzip the downloaded **DavinciInstaller** zip file.
- Double-click **DavinciInstaller** and follow the instructions given by the installer.

2.2   Launching Davinci from the command line

The Davinci package provides also the separate command-line version **DavinciConsole**, which uses the same libraries as **Davinci**. You can run **DavinciConsole** from the terminal with the `-h` or `--help` flags to get help text with all the available options.

2.3   Updating Davinci

Davinci can automatically check for updates every time the program is started. You can always change this setting in the program preferences. You can also manually check for updates.

Windows

Check automatically

- In the **Help** menu, click **Preferences**.
- In the **Update** group, click **Automatically check for updates**.

Check manually

- In the **Help** menu, click **Check for Updates**.

macOS

Check automatically

- In the **Davinci** menu, click **Preferences**.
- In the **Update** group, click **Automatically check for updates**.

Check manually

- In the **Davinci** menu, click **Check for Updates**.

Linux

Check automatically

- In the **File** menu, click **Preferences**.
- In the **Update** group, click **Automatically check for updates**.

Check manually

- In the **Help** menu, click **Check for Updates**.

2.4   Uninstalling Davinci

You can uninstall **Davinci** from **macOS**, **Windows** or **Linux** any time.

Windows

- Open **Windows Explorer** and navigate to the folder containing installed **Davinci**.
- Double-click **DavinciUninstaller.exe** and follow the instructions given by the uninstaller.

macOS

- Open **Finder** and navigate to the folder containing installed **Davinci**.
- Click **DavinciUninstaller.app** and follow the instructions given by the uninstaller.

Linux

- Open file manager and navigate to the folder containing installed **Davinci**.
- Click **DavinciUninstaller** and follow the instructions given by the uninstaller.

Chapter 3

How to Use

In this chapter we'll look at how to work with **Davinci**.