

Python® Package *lvpyio*

Free library with read/write
function of DaVis data

LaVision is offering a new free library for accessing DaVis data within the Python® programming language. The interface can read and also write back the DaVis specific data format types for images and vector fields. With the most recent version even particle data sets can be processed. The package is intended to be freely used in your own Python® projects and to provide experienced users with another way of using their DaVis data. Due to its stand alone implementation, *lvpyio* does not require an active installation of DaVis, which allows you to easily exchange your measurement data with non-DaVis users.



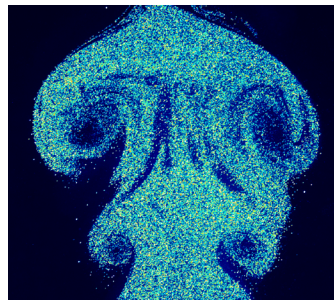
With *lvpyio's* dedicated write functions, third-party image, vector and particle data can easily be converted to DaVis data types. While doing so, you can benefit from DaVis' advanced post-processing operations and the extensive visualisation tools.

Features

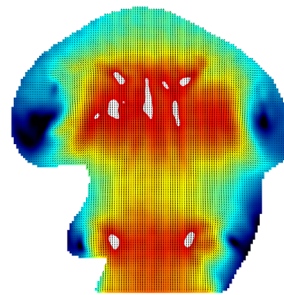
- ▶ interface reads DaVis specific data such as images, vector fields and particle data sets
- ▶ data can be transferred back into the DaVis format after processing by Python® programming language
- ▶ library can be used free of charge
- ▶ the most recent Python® version 3.11 is supported as well
- ▶ stand-alone software package (no DaVis required)

Supported data formats

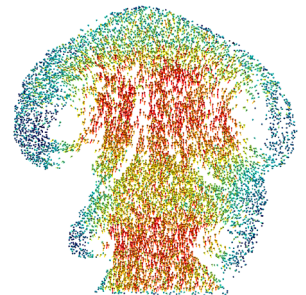
The three main DaVis set types, namely images, vector fields and particle tracks are supported with dedicated read and write functionalities. In addition, compressed stream sets, multi sets and CINE/MRAW sets can be accessed in a read-only fashion.



*Images/ image sets
(.im7, .imx, .set)*



*Vector fields / vector sets
(.vc7, .vec, .set)*



*Particle sets
(.set)*

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Supported systems

The following operating systems and Python® programming language versions are officially supported:

- ▶ Windows 10 64 bit
- ▶ Linux 64 bit
- ▶ Python® programming language 3.7/3.8/3.9/3.10/3.11 (CPython only)

Download & installation

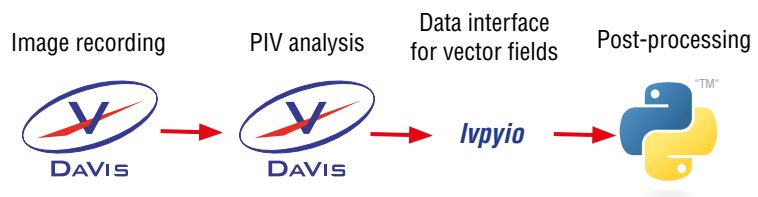
The **Ivpyio Python® Package** can be downloaded free of charge from our website's download area. The download file contains the necessary installation wheels for all supported systems, the manual and some small example scripts and data to get you started.

The installation processes is streamlined to work easily with Python's® package-management system pip. The use of **Ivpyio** with Anaconda® is also possible.

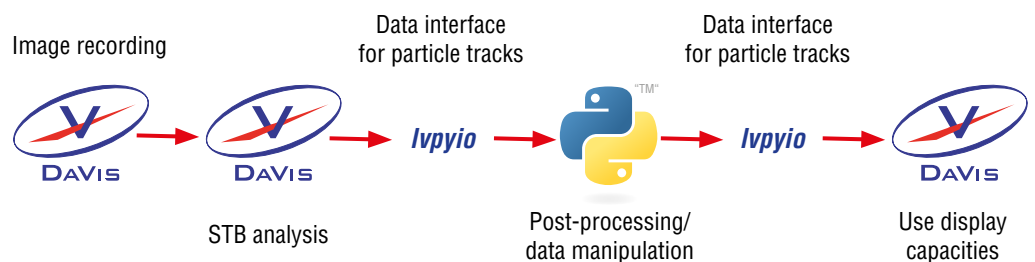
Furthermore, **Ivpyio** can be found and downloaded from the [Python® Package Index PyPI](#).

Exemplary workflows

With the incorporation of **Ivpyio** into your processing pipeline, many use cases can be imagined. For example, you can use one of LaVision's FlowMaster measurement systems to record your measurement data and perform a Particle Image Velocimetry analysis of your flow of interest. As a next step you can access the vector field results within your own Python® post-processing routines in order to implement novel data analysis methods for your research.



It is also possible to apply such novel data manipulation approaches and directly write back the results into the DaVis data type format. This grants you the possibility to further use DaVis' extended visualization capabilities.



Data provided by LaVision are believed to be true. However, no responsibility is assumed for possible inaccuracies or omissions. All data are subject to change without notice.

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