



TVTK库的安装

PROJECTS

<http://code.enthought.com/projects/mayavi/>Entthought Tool
Suite

Traits

TraitsUI

Enaml

Chaco

Mayavi**Overview**

Documentation

Issues »

Screen Shots

Development
Details

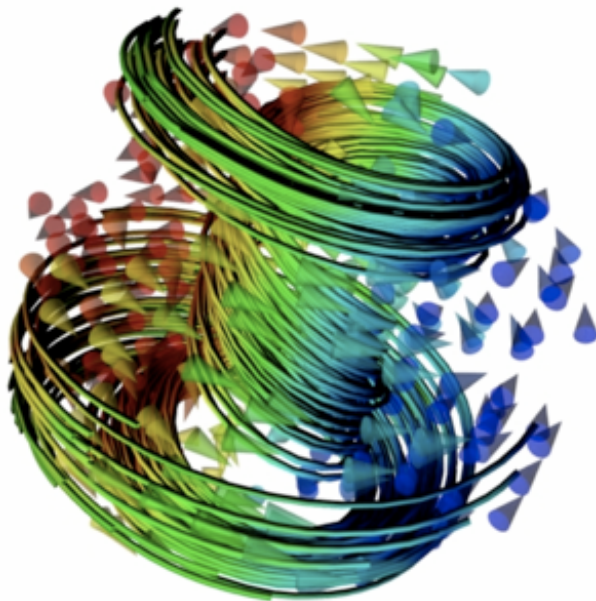
Mayavi Project

3D Scientific Data Visualization and Plotting

The Mayavi *project* includes two related *packages* for 3-dimensional visualization:

- **Mayavi**: A tool for **easy and interactive** visualization of data, with **seamless integration with Python scientific libraries**.
- **TVTK**: A Traits-based wrapper for the Visualization Toolkit, a popular open-source visualization library.

These libraries operate at different levels of abstraction. TVTK manipulates visualization objects, while Mayavi lets you operate on your data, and then see the results. Most users either use the Mayavi user interface or program to its scripting interface; you probably don't need to interact with TVTK unless you want to create a new Mayavi module.



TVTK库的安装

IDE编程环境：

Python3.6/IDLE3.6

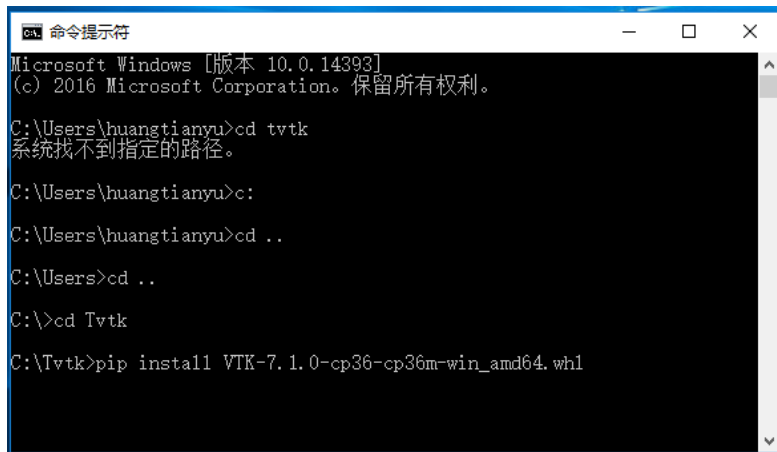
Pycharm Community Edition 2017

TVTK库的安装

下载 VTK-7.1.1-cp36-cp36m-win_amd64.whl

“以管理员身份运行” cmd

在下载目录执行 `pip install VTK-7.1.1-cp36-cp36m-win_amd64.whl`



```
命令提示符
Microsoft Windows [版本 10.0.14393]
(c) 2016 Microsoft Corporation。保留所有权利。

C:\Users\huangtianyue>cd tvtk
系统找不到指定的路径。

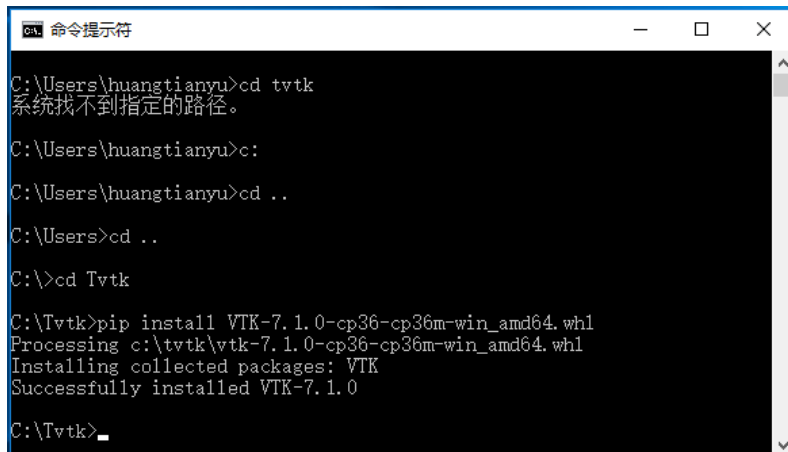
C:\Users\huangtianyue>c:

C:\Users\huangtianyue>cd ..

C:\Users>cd ..

C:\>cd Tvtk

C:\Tvtk>pip install VTK-7.1.0-cp36-cp36m-win_amd64.whl
```



```
命令提示符

C:\Users\huangtianyue>cd tvtk
系统找不到指定的路径。

C:\Users\huangtianyue>c:

C:\Users\huangtianyue>cd ..

C:\Users>cd ..

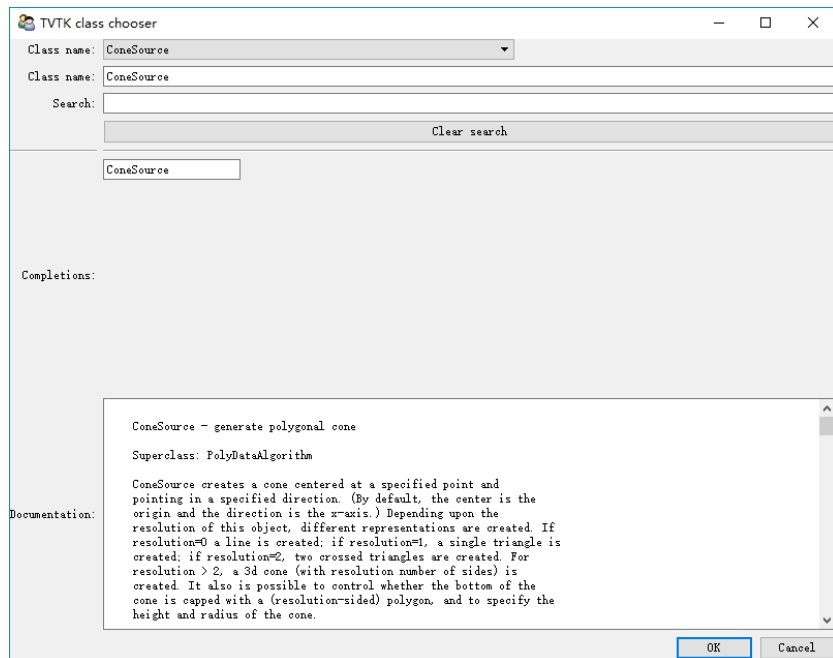
C:\>cd Tvtk

C:\Tvtk>pip install VTK-7.1.0-cp36-cp36m-win_amd64.whl
Processing c:\tvtk\tvk-7.1.0-cp36-cp36m-win_amd64.whl
Installing collected packages: VTK
Successfully installed VTK-7.1.0

C:\Tvtk>_
```

TVTK库的安装小测

```
>>> from tvtk.tools import tvtk_doc  
>>> tvtk_doc.main()
```



TVTK库的安装小测

建立tvtk长方体数据源

```
>>> from tvtk.api import tvtk
>>> s = tvtk.CubeSource(x_length=1.0, y_length=2.0, z_length=3.0)
>>> print(s)
vtkCubeSource (0000028E98EA6AA0)
  Debug: Off
  Modified Time: 96
  Reference Count: 2
  Registered Events:
    Registered Observers:
      vtkObserver (0000028E9A6FC3F0)
        Event: 33
        EventName: ModifiedEvent
```

TVTK帮助资源

<http://www.vtk.org/doc/nightly/html/annotated.html>

VTK

Main Page	Related Pages	Modules	Namespaces	Classes	Files
Class List	Class Index	Class Hierarchy	Class Members		

Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

▶ N ADIOS	
▶ N boost	Forward declaration required for Boost serialization
▶ N detail	
▶ N tovtkm	
▶ N vtk	
▶ N vtkArrayDispatch	
▶ N vtkBlockSortHelper	Collection of comparison functions for std::sort
▶ N vtkDispatcherCommon	
▶ N vtkDispatcherPrivate	
▶ N vtkDoubleDispatcherPrivate	
▶ N vtkm	
▶ N vtkParticleTracerBaseNamespace	
▶ N vtkTemporalStreamTracerNamespace	
▶ N vtkTypeList	
▶ N vtkTypeList	

TVTK帮助资源

- TVTK库中的类名去除了前缀vtk
- 函数名按照Python的惯例，采用下划线连接单词

如AddItem->add_item

- VTK对象的方法在TVTK中用Trait属性替代

```
m.SetInputConnection(c.GetOutputPort())      #VTK
```

```
m.input_connection(c.output_port)             #TVTK
```