

1.FyTok requirements

为了安装和使用FyTok，下面的要求必须满足：

- Python 3.7 or later**
- 其他额外Python包的依赖
 - f90nml
 - h5py
 - netcdf4
 - json
 - pyyaml
 - lxml
 - numpy
 - scipy
 - sympy
 - scikit_image
 - matplotlib
- 核心数据集成工具SpDB(SpDM)依赖：
 - SpDB是一个用于EAST集成建模系统的数据集成工具，它的目标是根据一个全局的schema（IMAS IDS）将不同的数据源的科学数据统一在相同的命名空间中，并提供一致的API接口访问它们。
 - 源码下载：<https://gitee.com/SimPla/SpDM/releases/tag/0.3.0-rc>
 - 或者直接pip install spdm安装（已经将whl包上传到<https://pypi.org/project/>仓库中了）
- 下载FyTok 模块包：
 -

2. 安装

2.1 在所内ShenMa集群环境下安装(service108)

- shenma集群内已经部署了上述依赖环境，建议直接使用集群内已有的环境，
- 调用下述模块即可

```
module load Python/3.10.8-GCCcore-12.2.0
module load FyLab/2022b-foss-2022b
module load SciPy-bundle/2023.02-gfbf-2022b
module load h5py/3.8.0-foss-2022b
module load netcdf4-python/1.6.3-foss-2022b
module load matplotlib/3.7.0-gfbf-2022b
module load lxml/4.9.2-GCCcore-12.2.0
module load scikit-image/0.19.3-foss-2022b
module load mpi4py/3.1.4-gompi-2022b
```

- 安装SpDB：
 - 注：默认安装在~/local/lib/Python3.10/python3.10/site-packages, --
target=\$INSTALLPAH 指定安装目录
 - --no-deps 表示不需要额外下载依赖，上述**module load**已经把依赖添加到当前环境中了

```
pip install spdm --no-deps --target=$INSTALLPAH
```

- 安装FyTok
 - 注：默认安装在~/local/lib/Python3.10//python3.10/site-packages, --**target=\$INSTALLPAH** 指定安装目录

```
pip install fytok-0.2.1-py3-none-any.whl --no-deps --target=$INSTALLPAH
```

- 验证FyTok环境是否正常

```
export PYTHONPATH=~/.local/lib/Python3.10//python3.10/site-  
packages:$PYTHONPATH  
import fytok
```

```
[jupytertertest@service108 ~]$ python -c 'import fytok'
```

```
2023-10-31 14:02:48,890 [ fytok] INFO:
#####
```

```

  /---/  /---/  /---/
 /  /  /  /  /  /  /  /
/  /  /  /  /  /  /  /
 \  \  \  \  \  \  \  \
  \---\  \---\  \---\

```

```

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url: https://gitee.com/openfusion/fytok\_tutorial
     https://github.com/fusion-yun/fytok\_tutorial

ontology = imas/3, version = 870de93 ( imas_version=v3_38_1_dirty )

Run by Jupytertertest on service108 at 2023-10-31T14:02:48.890165

#####

2023-10-31 14:02:48,890 [ fytok] INFO: The End
```

2.2 自行解析依赖安装FyTok

注: FyTok的所有算例测试是在shenma集群中已建立的依赖环境中完成的。自行解析依赖安装的版本不确定其完整的可用性。

- 安装python3.10
- 安装SpDB

```
pip install spdm
```

```
[liuxj@service108 0.3.1-foss-2022b]$ pip install spdm --target=/gpfs/fuyun/software/spdm/0.3.1-foss-2022b
Collecting spdm
  Downloading spdm-0.3.1-py3-none-any.whl (168 kB)
    168.6/168.6 kB 715.2 kB/s eta 0:00:00
Collecting f90nml
  Downloading f90nml-1.4.4-py2.py3-none-any.whl (32 kB)
Collecting lxml
  Downloading lxml-4.9.3-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.manylinux_2_24_x86_64.whl (7.0 MB)
    7.0/7.0 MB 13.0 MB/s eta 0:00:00
Collecting h5py
  Downloading h5py-3.10.0-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (4.8 MB)
    4.8/4.8 MB 35.8 MB/s eta 0:00:00
Collecting scipy
  Downloading scipy-1.11.3-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (36.4 MB)
    36.4/36.4 MB 22.9 MB/s eta 0:00:00
Collecting numpy
  Downloading numpy-1.26.1-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (18.2 MB)
    18.2/18.2 MB 24.2 MB/s eta 0:00:00
Collecting matplotlib
  Downloading matplotlib-3.8.0-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (11.6 MB)
    11.6/11.6 MB 29.5 MB/s eta 0:00:00
Collecting scikit-image
  Downloading scikit_image-0.22.0-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (14.7 MB)
    14.7/14.7 MB 29.1 MB/s eta 0:00:00
Collecting pyyaml
  Downloading PyYAML-6.0.1-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (705 kB)
    705.5/705.5 kB 58.2 MB/s eta 0:00:00
Collecting netcdf4
  Downloading netCDF4-1.6.4-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (5.4 MB)
    5.4/5.4 MB 38.5 MB/s eta 0:00:00
Collecting pyparsing>=2.3.1
  Downloading pyparsing-3.1.1-py3-none-any.whl (103 kB)
    103.1/103.1 kB 22.8 MB/s eta 0:00:00
Collecting pillow>=6.2.0
  Downloading Pillow-10.1.0-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (3.5 MB)
    3.5/3.5 MB 29.7 MB/s eta 0:00:00
Collecting cycler>=0.10
  Downloading cycler-0.12.1-py3-none-any.whl (8.3 kB)
Collecting packaging>=20.0
  Downloading packaging-23.2-py3-none-any.whl (53 kB)
    53.0/53.0 kB 11.7 MB/s eta 0:00:00
Collecting python-dateutil>=2.7
  Downloading python_dateutil-2.8.2-py2.py3-none-any.whl (247 kB)
    247.7/247.7 kB 38.2 MB/s eta 0:00:00
Collecting fonttools>=4.22.0
  Downloading fonttools-4.43.1-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (4.5 MB)
```

- 安装FyTok

```
pip install fytok-0.2.1-py3-none-any.whl
```

- 验证FyTok环境是否正常
 - 注：pip install默认安装在~/.local/lib/python3.10下面。也可使用--target参数指定到其他目录下。

```
export PYTHONPATH=~/.local/lib/python3.10/site-packages:$PYTHONPATH
import fytok
```