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# Overview of VieVS: Installation, files, structure of the program

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# System Requirements

-  MATLAB 7.6 (R2008a) or later.
-  About 6.4 GB of disk space, including all data files (just source code: <10 MB).
-  Should work with any operating system able to run this MATLAB version (tested on Windows and Linux).
-  Possible to run on older MATLAB version if the Graphical User Interface is not used.
-  With minor corrections to the source code, it should also be possible to run VieVS on e.g. Octave (except for the GUI).

# Downloading VieVS

- 📌 VieVS can be downloading using ssh/sftp from the server:

**`views1.hg.tuwien.ac.at`**

- 📌 Log in to the server as user *viewsuser*, download the **VieVS** directory.

# Downloading VieVS using rsync

- ▶ On Unix/Linux systems, VieVS can easily be downloaded using the rsync command:

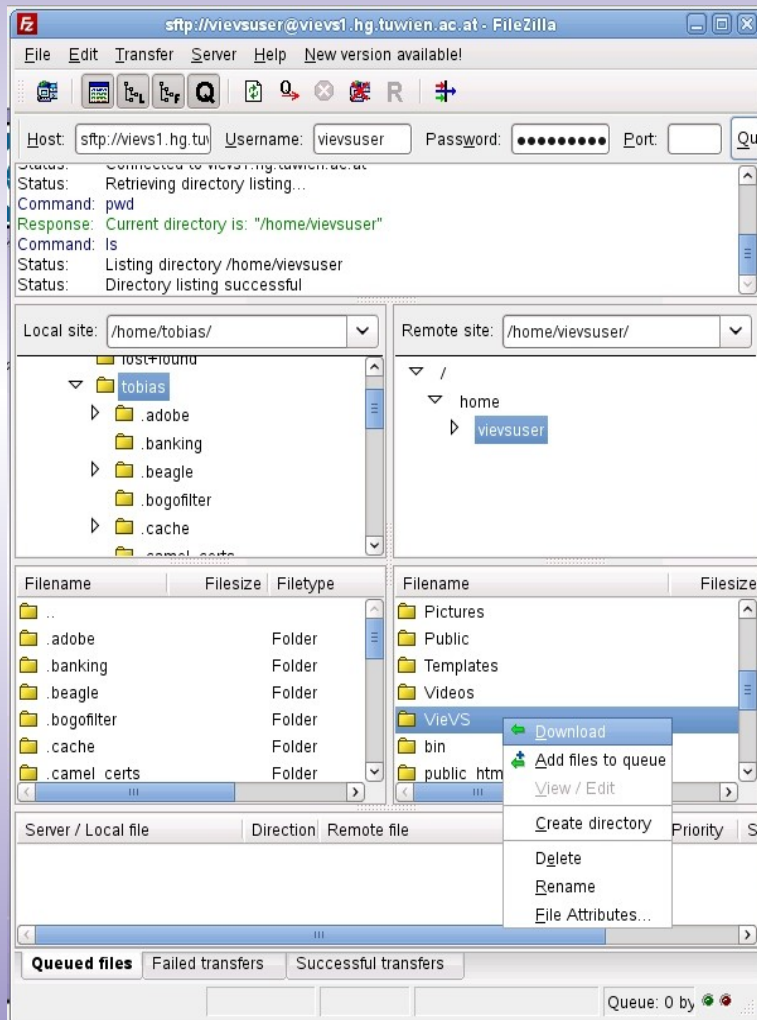
```
rsync -aL vievsuser@views1.hg.tuwien.ac.at:VieVS .
```

- ▶ The same command can also be used to to update your VieVS installation.

- ▶ To skip the NGS files (e.g. slow connections):

```
rsync -aL --exclude 'DATA/NGS/*' vievsuser@views1.hg.tuwien.ac.at:VieVS .
```

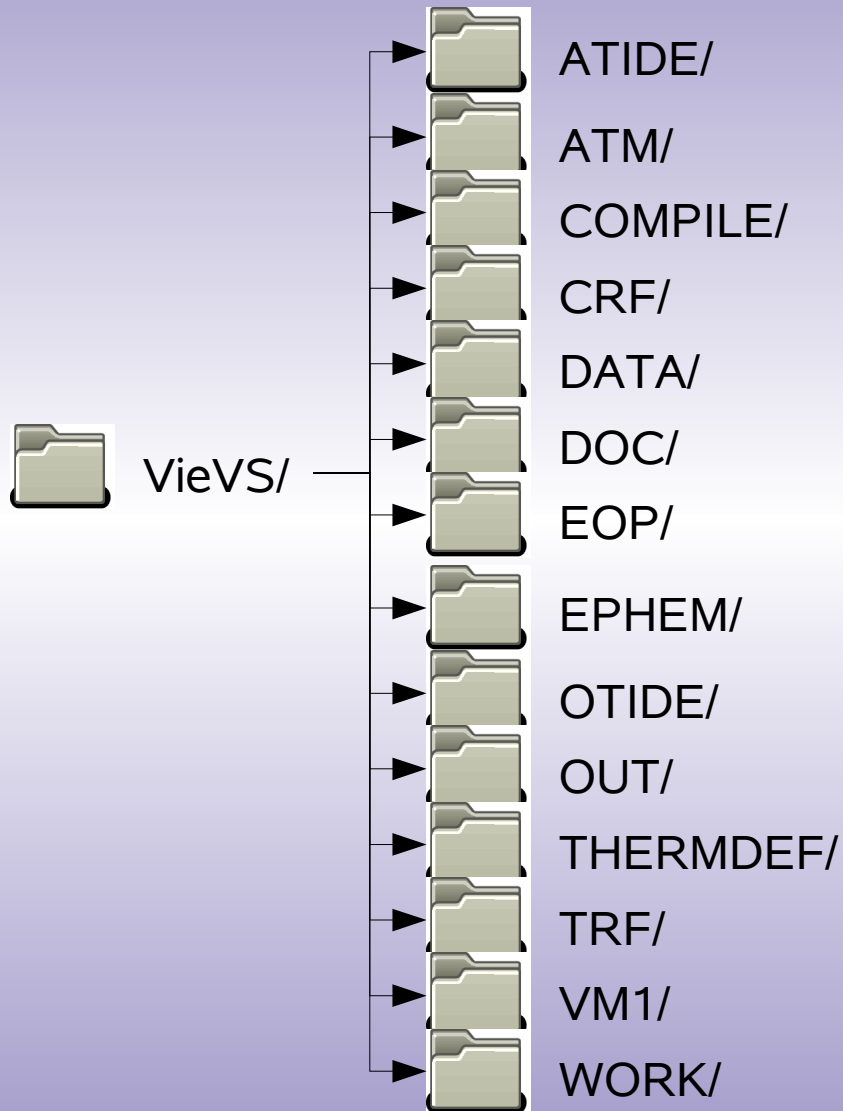
# Download VieVS using a sftp client

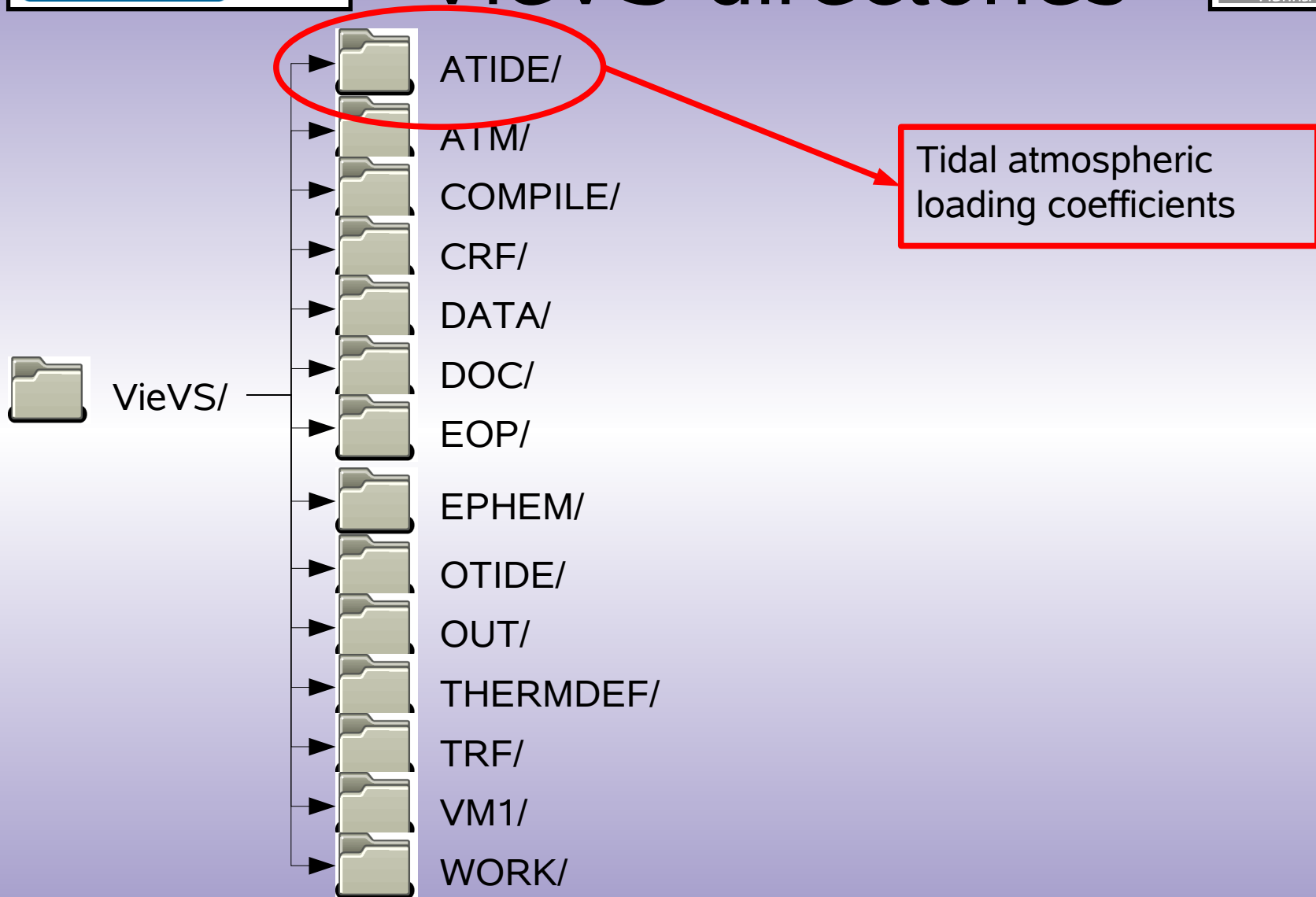


- 🐶 Log in to the server with your favourite sftp client (e.g. FileZilla, WinSCP).
- 🐶 Download the VieVS directory (to download everything).

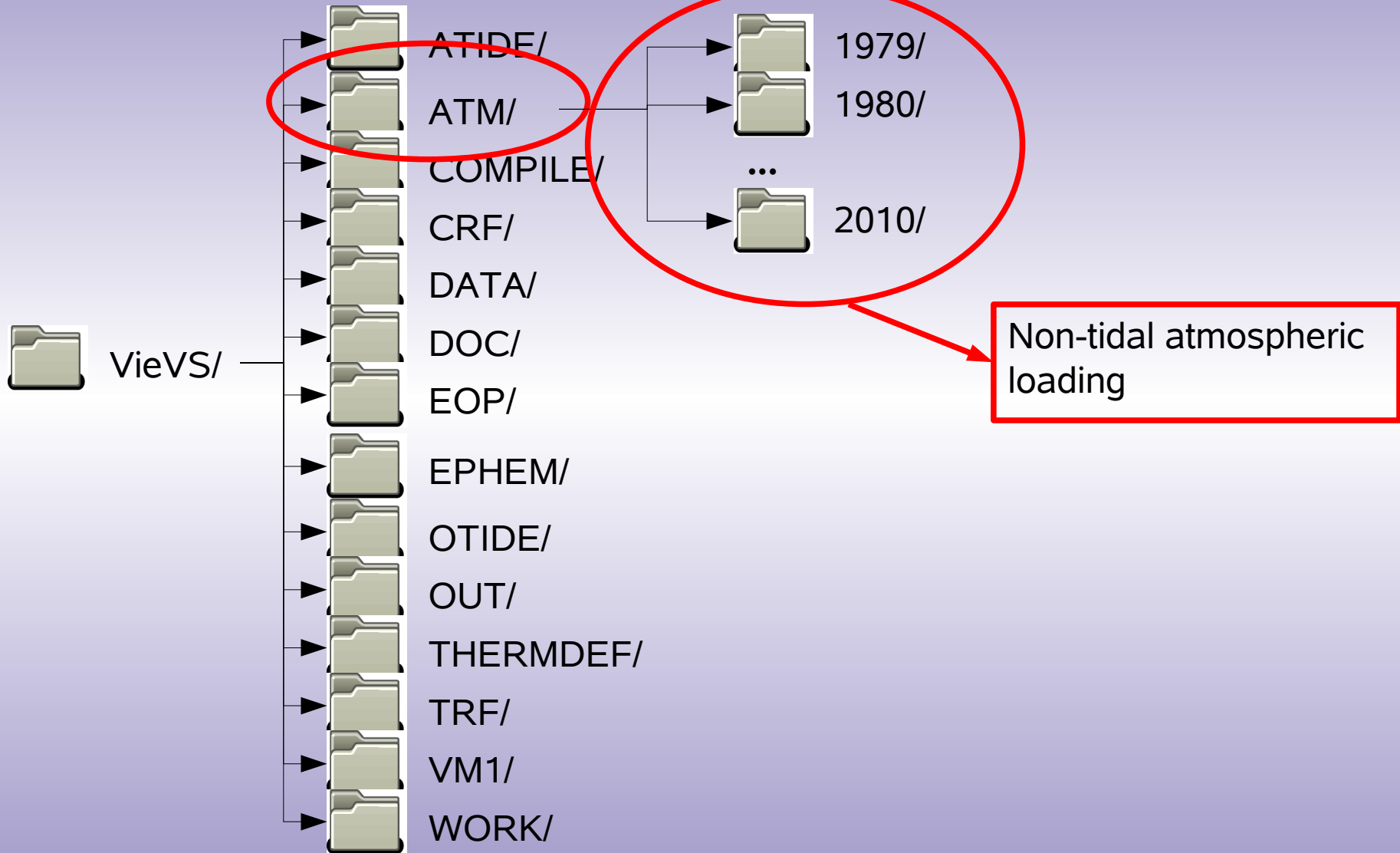
# Updating VieVS

- 🐾 Regularly update: (in order to analyse new sessions)
  - 🐾 **VieVS/DATA/NGS** directory
  - 🐾 **VieVS/ATM** directory
  - 🐾 **VieVS/VM1** directory
  - 🐾 **VieVS/EOP/C04\_05\_1962\_now.txt**
- 🐾 When a new version is released:
  - 🐾 **VieVS/COMPILE** directory
  - 🐾 **.m-files** in **VieVS/WORK** and **VieVS/OUT** directories
  - 🐾 Other files, specified when the update is announced

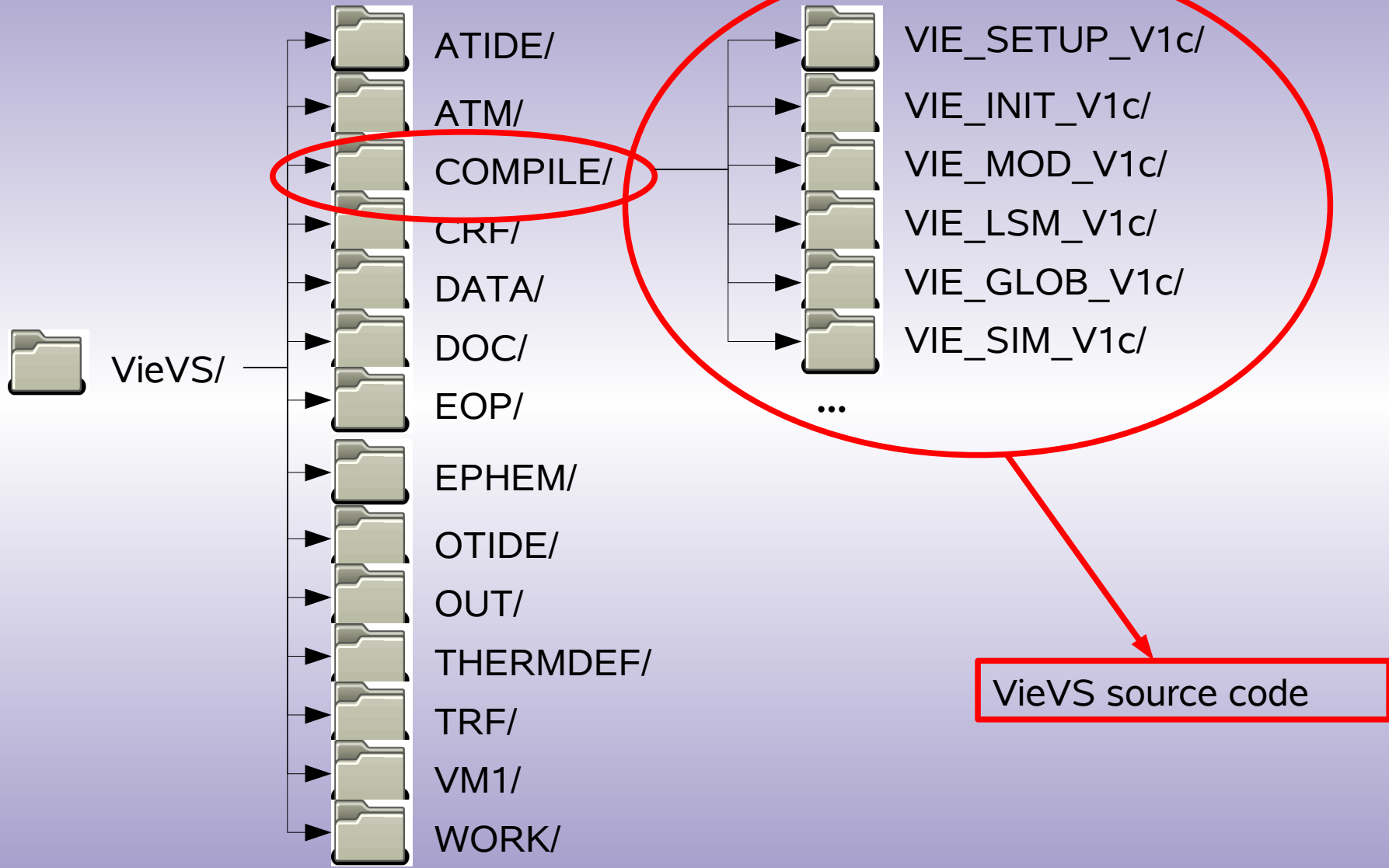


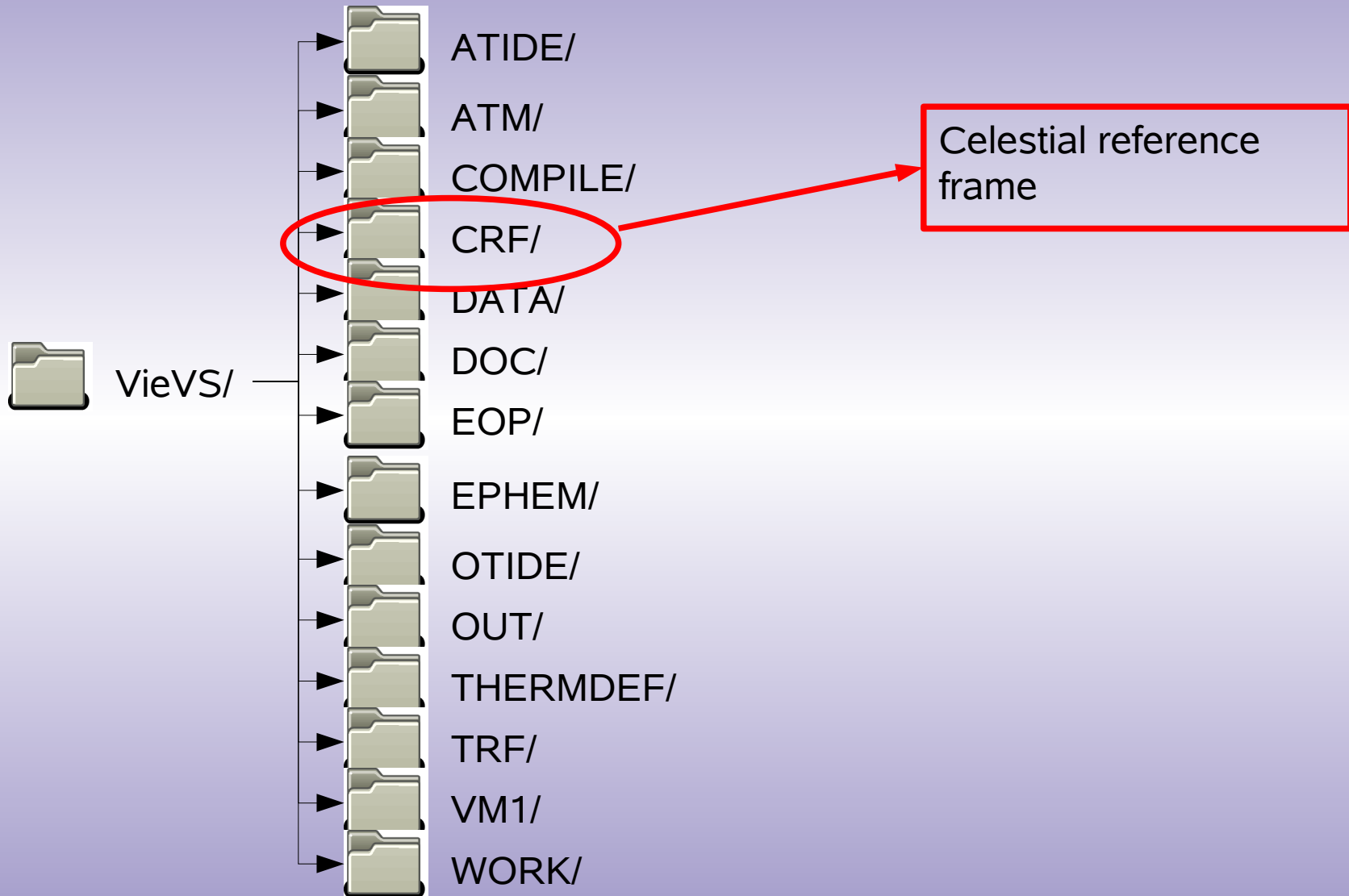




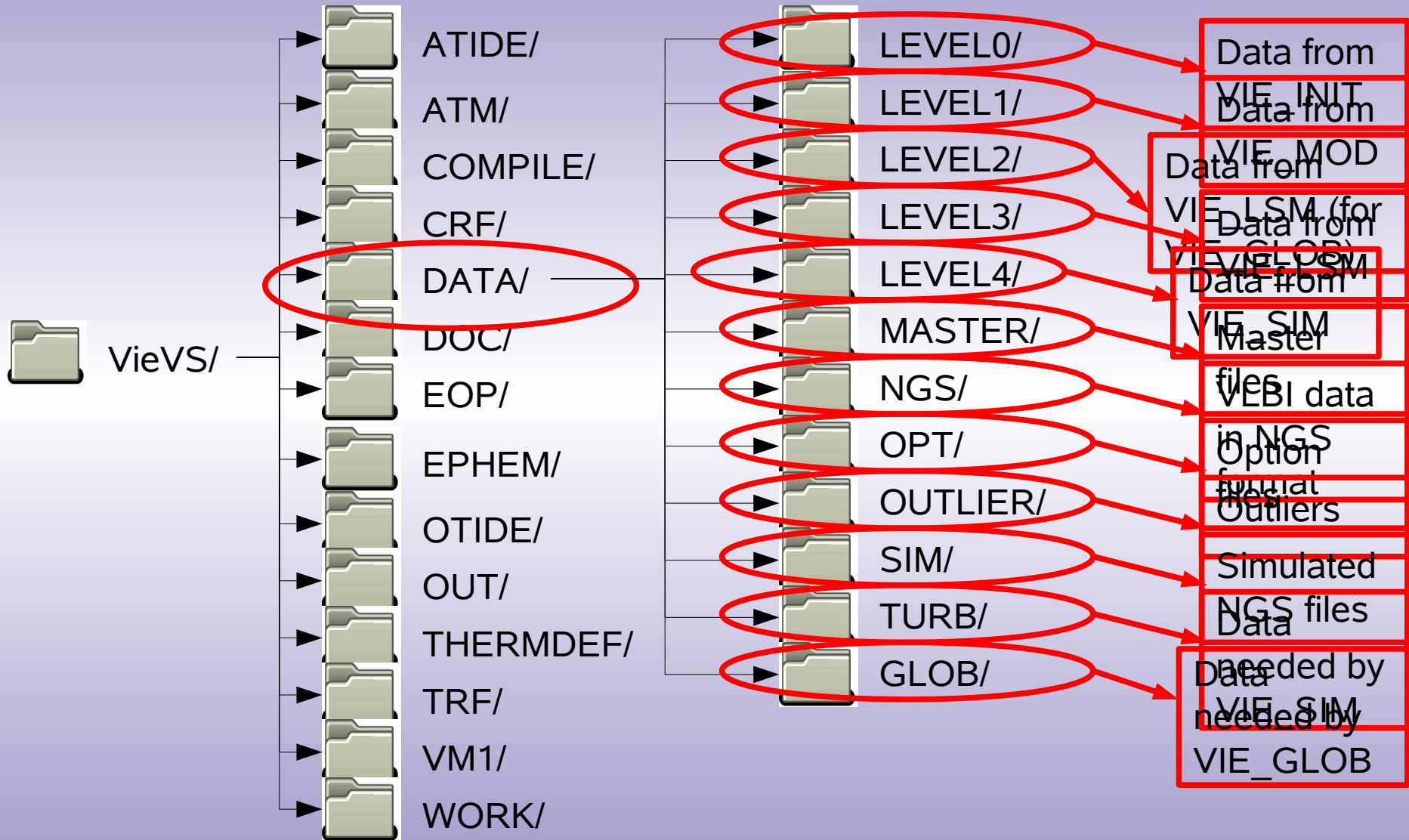


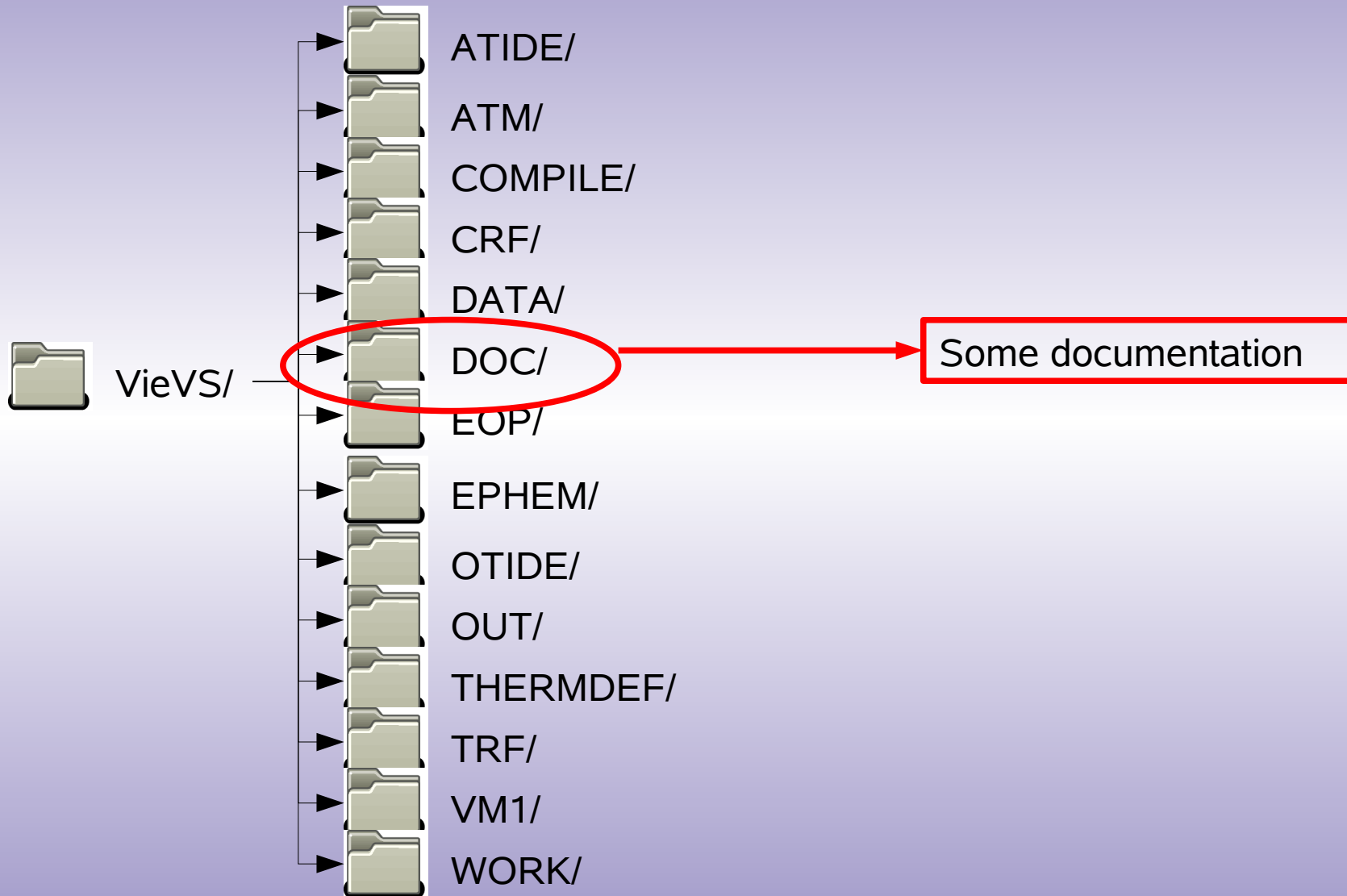
# VieVS directories

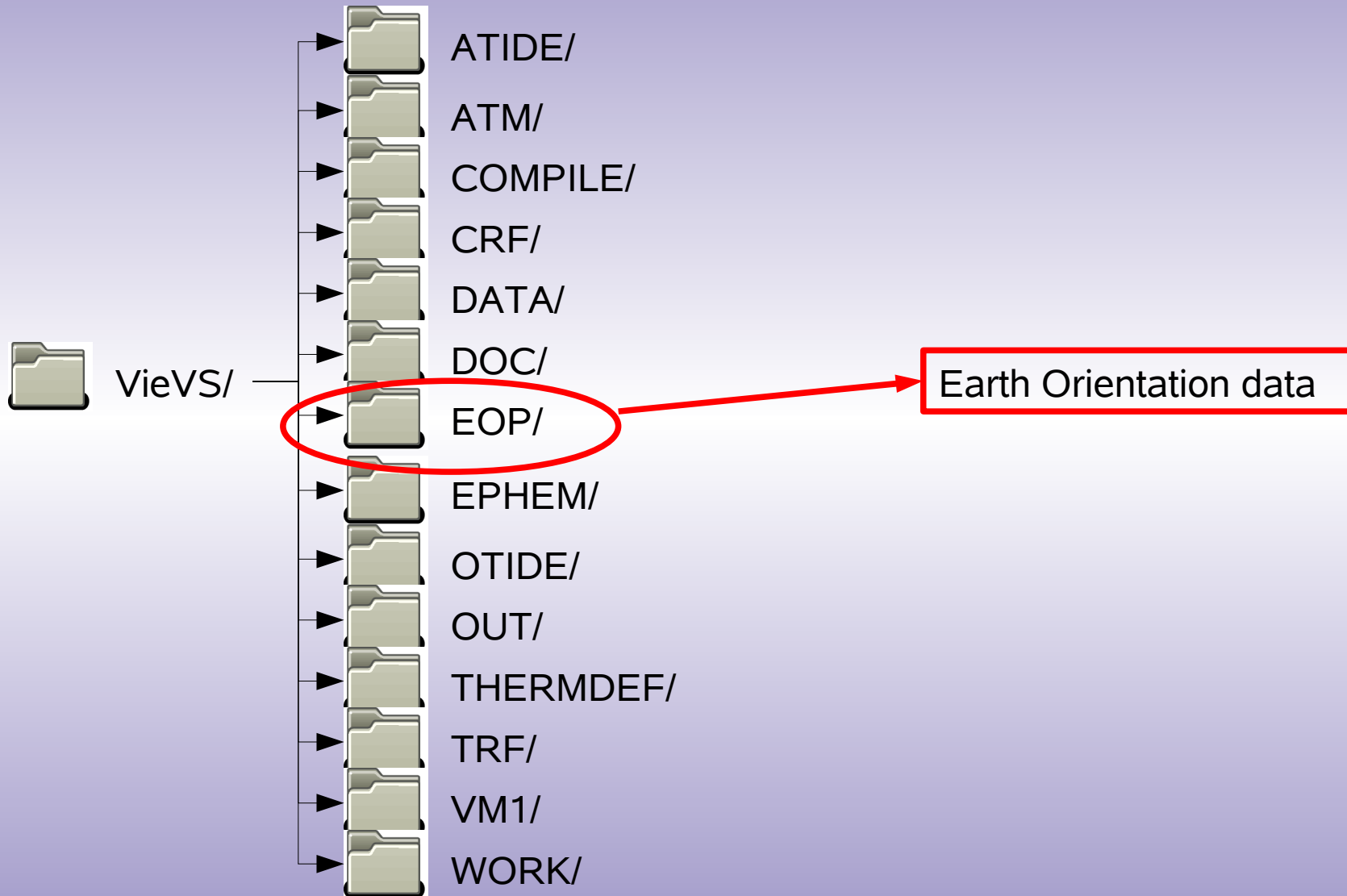


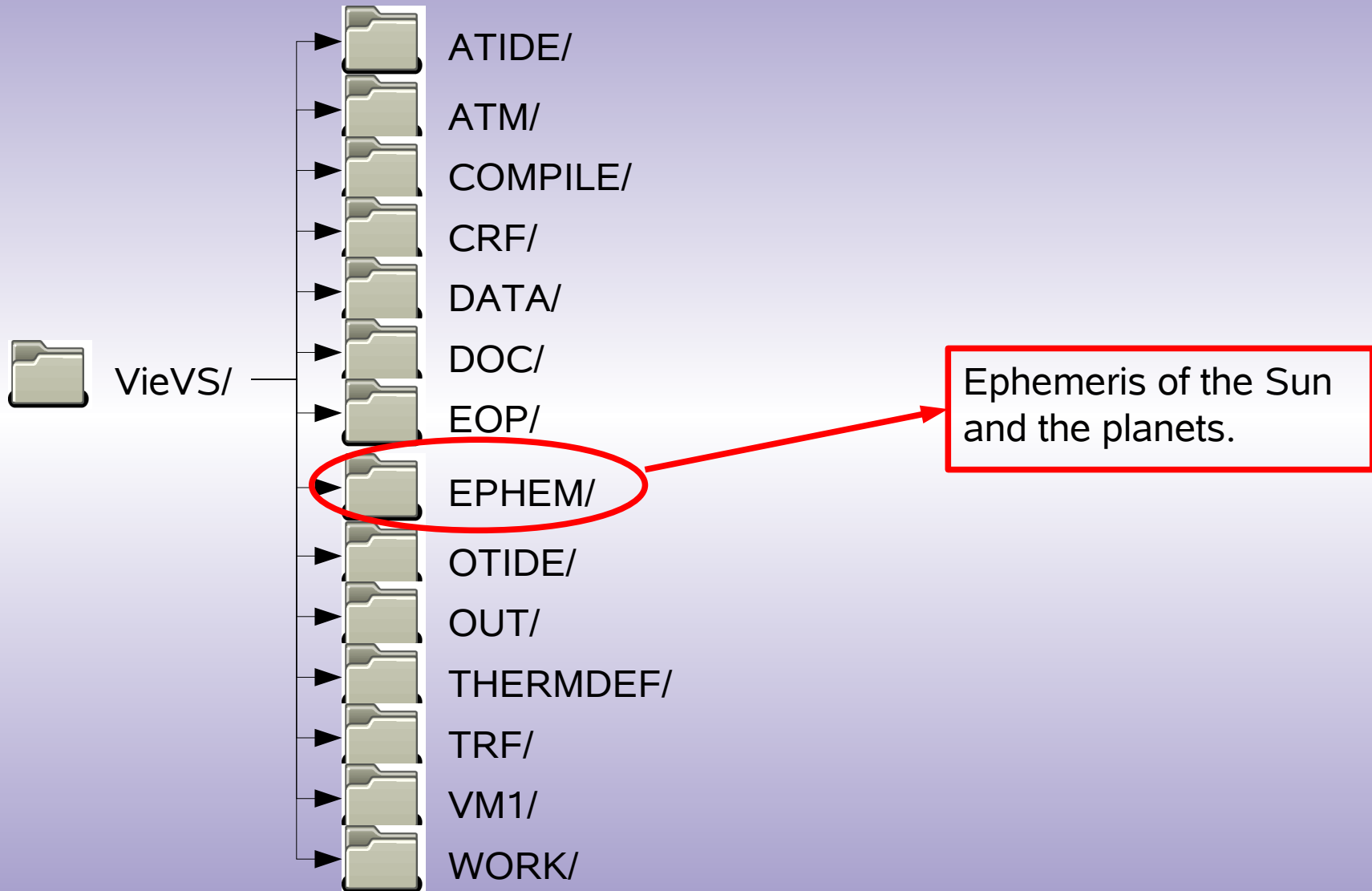


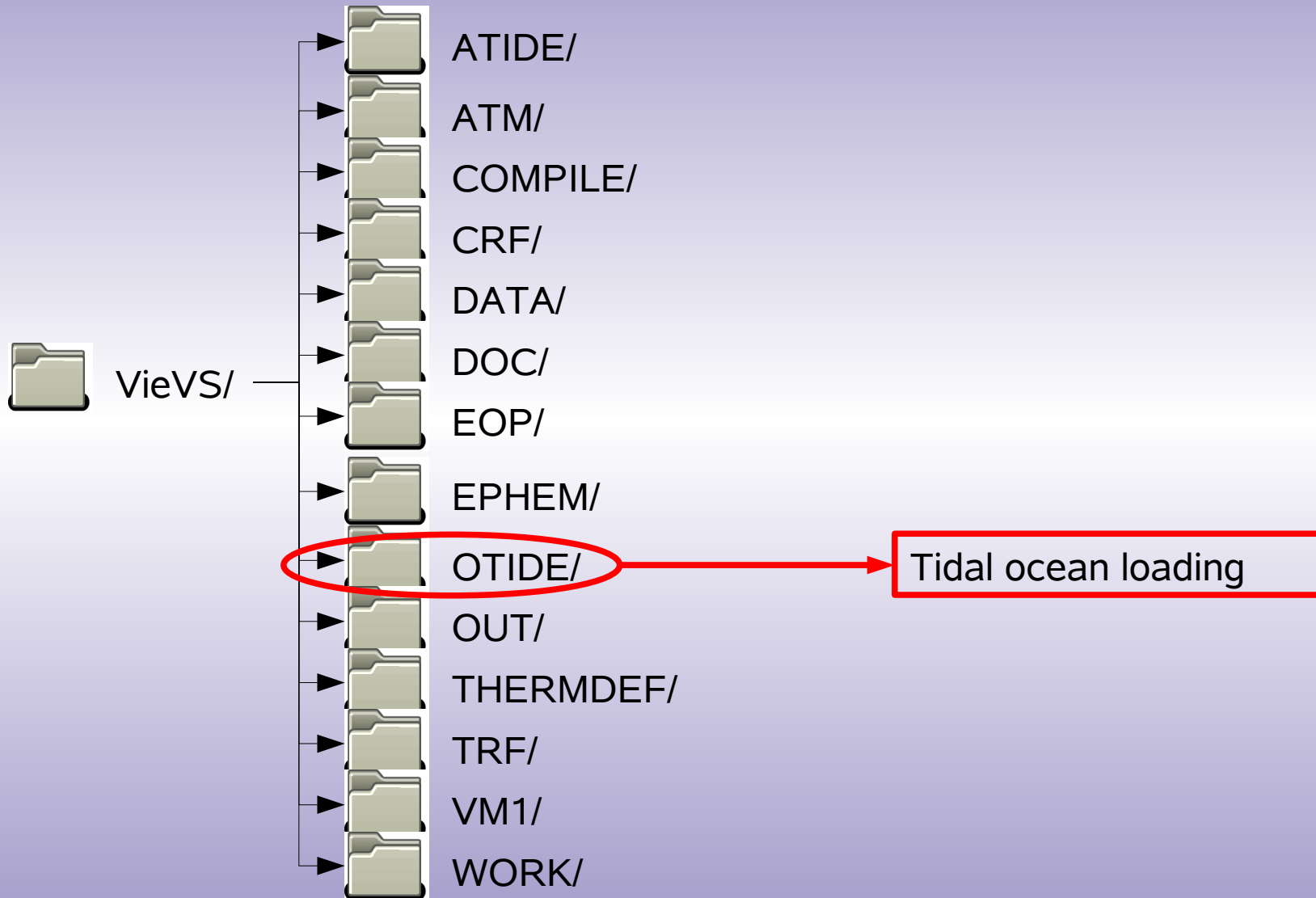
# VieVS directories



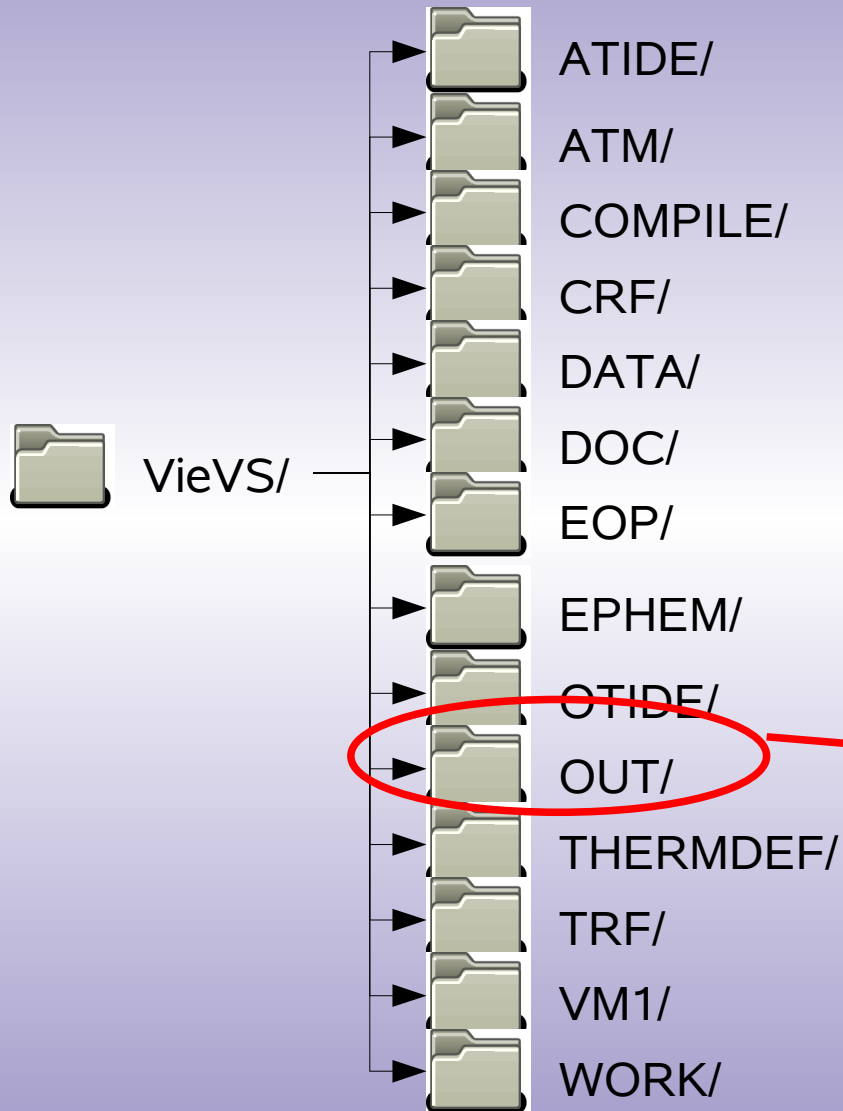




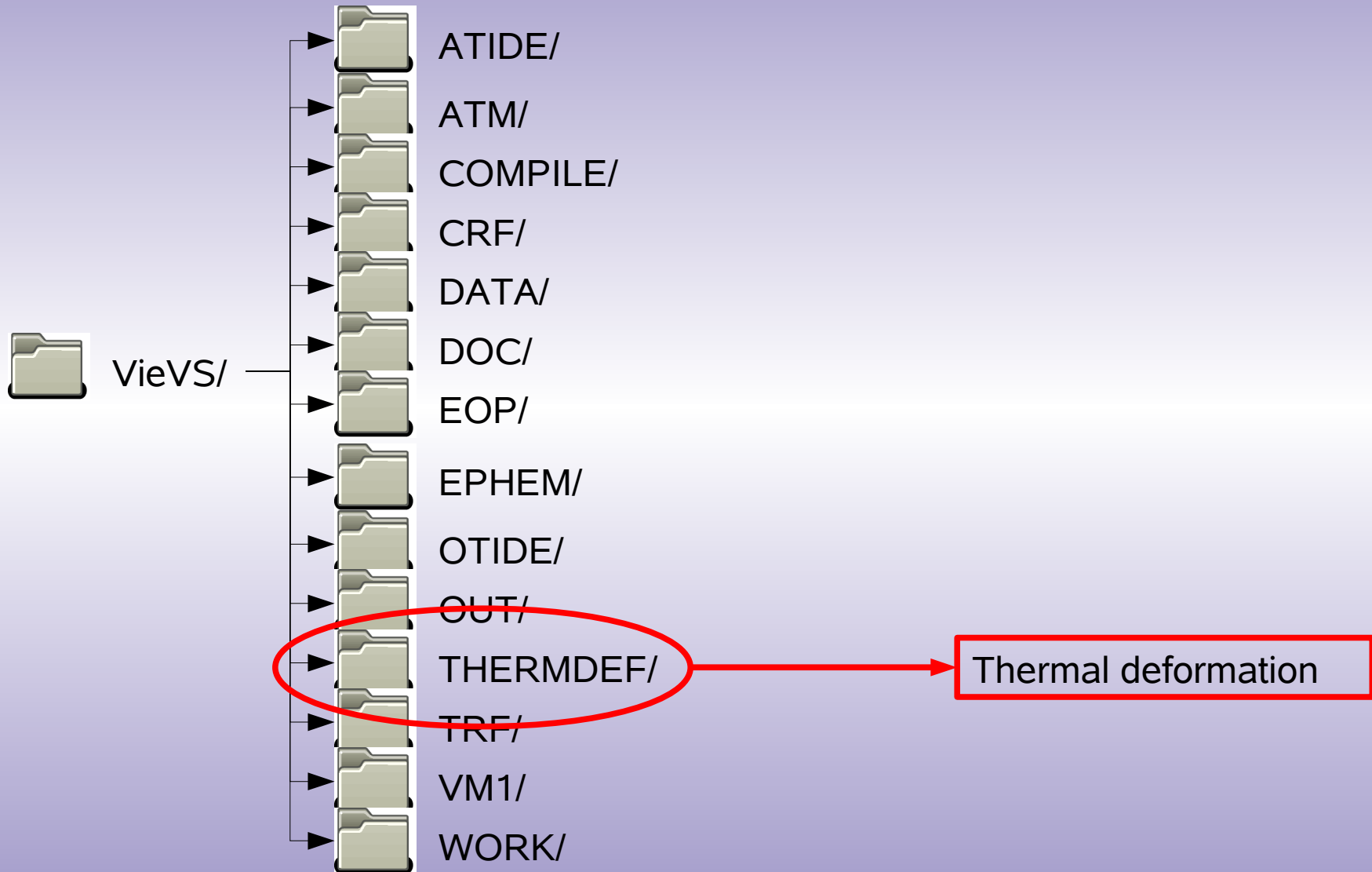


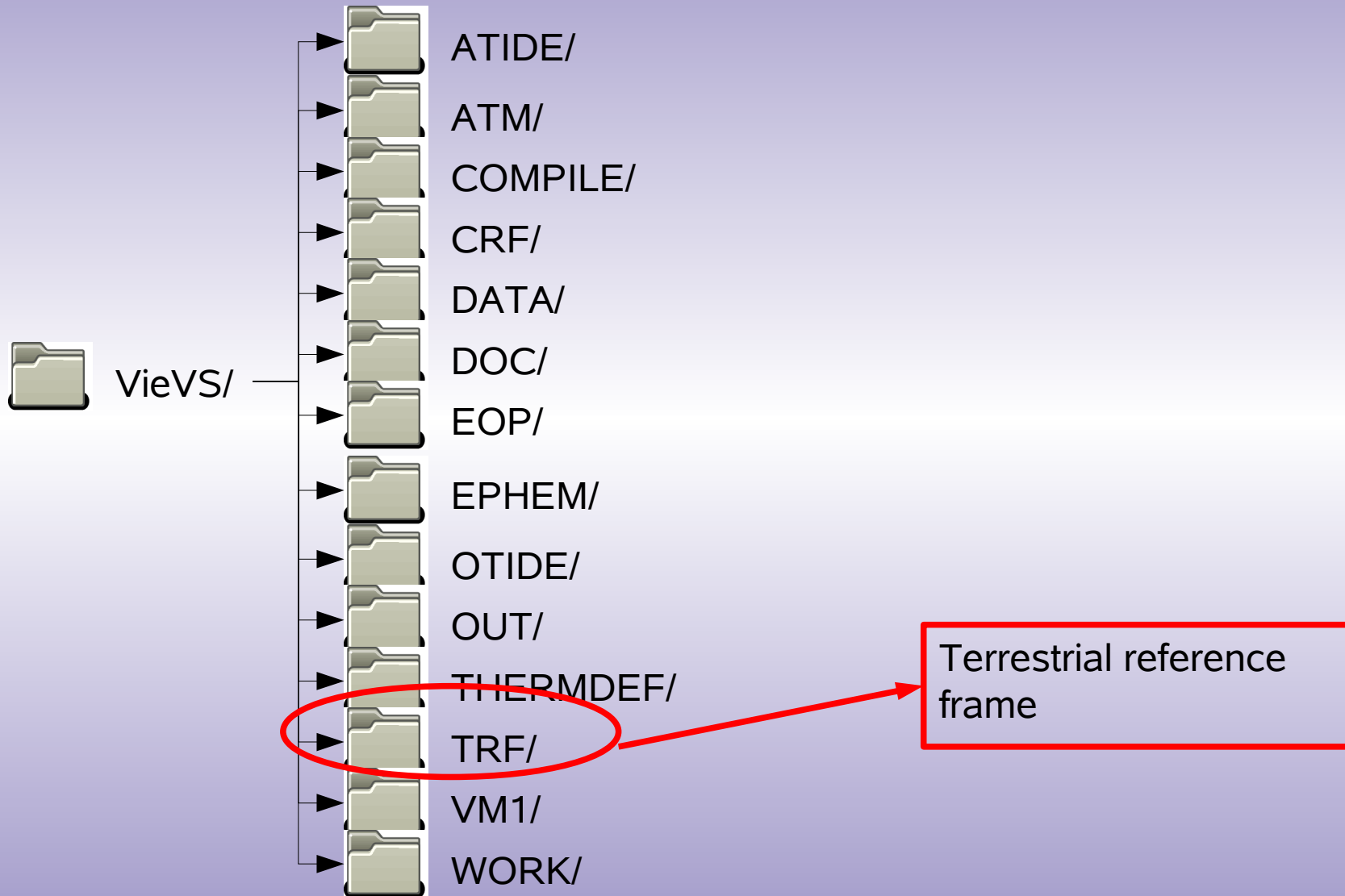


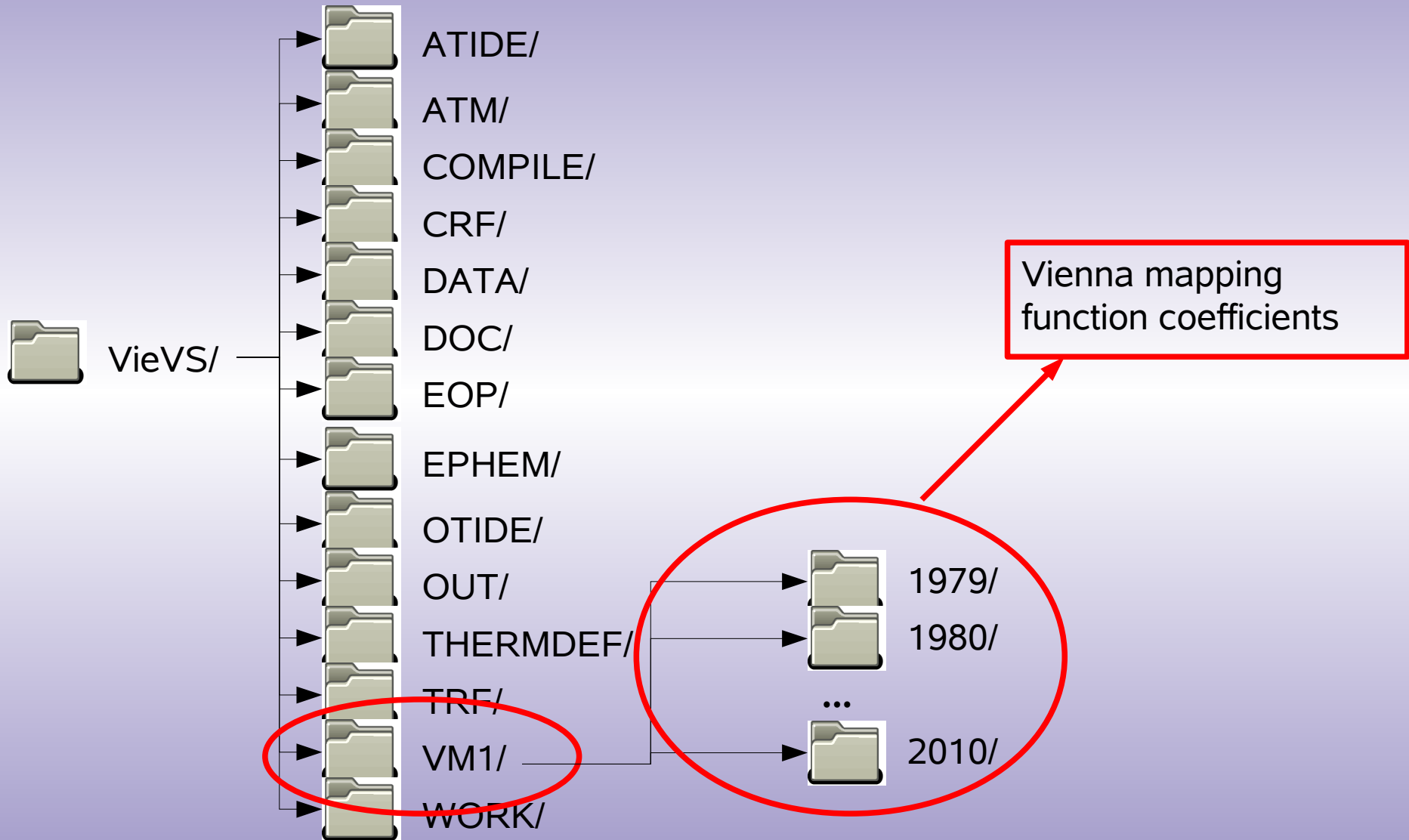


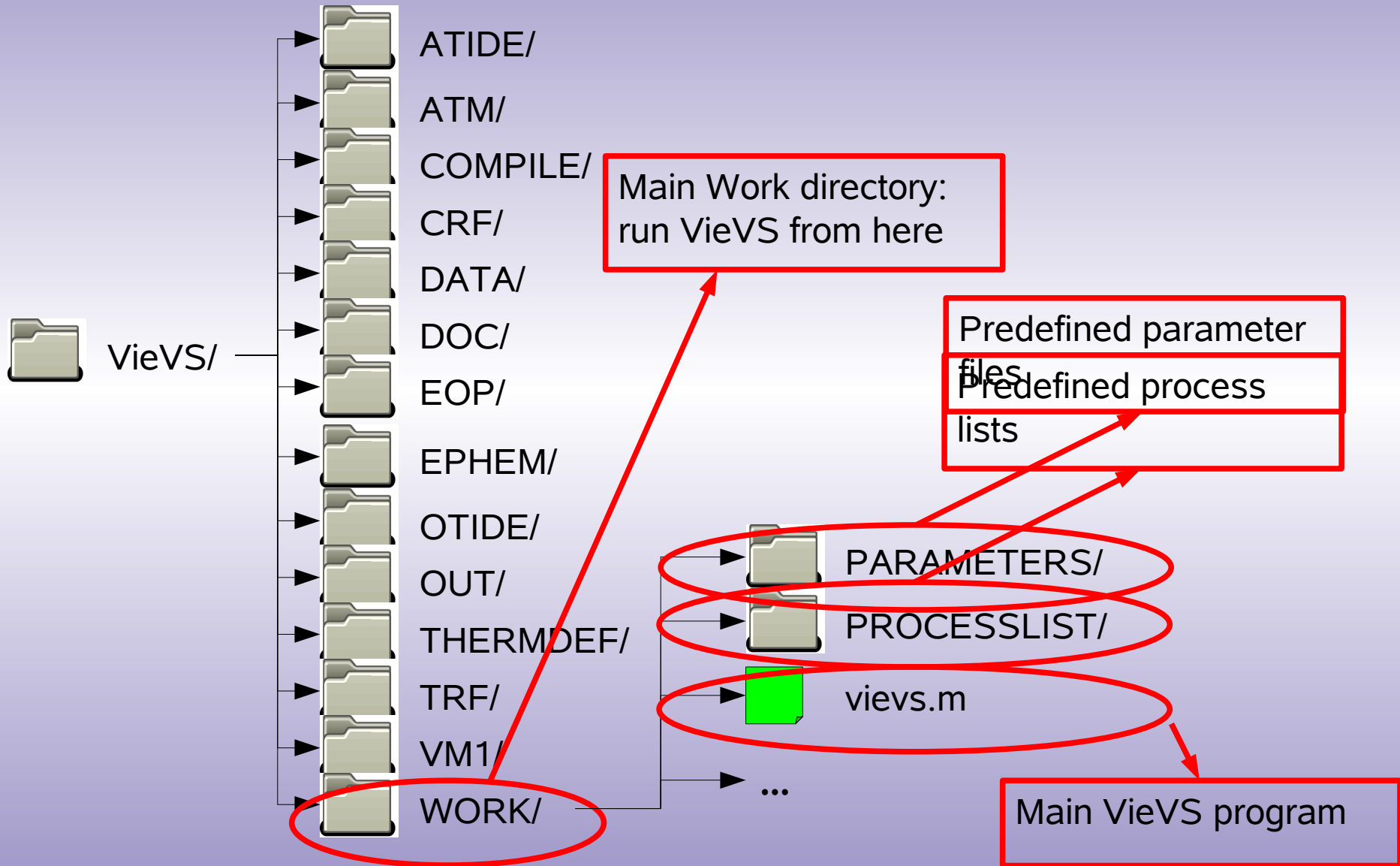


Some scripts for e.g. creating eop output files, sinex files etc.









VIE\_SETUP

Setup of processing  
Graphical User Interface

VIE\_INIT

Reads the data

VIE\_MOD

Calculate the theoretical delay  
and the partial derivatives

VIE\_LSM

Least squares adjustment


VIE\_SIM

Simulation tools




VIE\_GLOB

Global solution

# Files used and created by different parts of VieVS

 VIE\_SETUP:

 Creates:

-  **WORK/process\_list.mat:** list of sessions to be processed
-  **WORK/runp.mat:** Some general information about the processing, e.g. which parts of VieVS to be run.
-  Parameter files in the **DATA/LEVEL0/** directory. Contains the options for the analysis. One for each session in the process list. Name: *SESSIONNAME\_parameter.mat*, e.g. **08AUG12XA\_N004\_parameter.mat.**

# Files used and created by different parts of VieVS

## VIE\_INIT:

### Reads:


 Parameter file from **DATA/LEVEL0/** directory (e.g. **08AUG12XA\_N004\_parameter.mat**).


 Outlier file.

 OPT file.

### Creates structure arrays saved in **DATA/LEVEL0/**:

 *antenna*: list of stations in the session (saved as e.g. **08AUG12XA\_N004\_antenna.mat**).

 *sources*: list of sources observed in the session (saved as e.g. **08AUG12XA\_N004\_sources.mat**).

 *scan*: list of scan (saved as e.g. **08AUG12XA\_N004\_scan.mat**).



# Files used and created by different parts of VieVS



VIE\_MOD:



Reads:



The *parameter*, *antenna*, *sources*, and *scan* structure arrays from the **DATA/LEVEL0/** directory.



Creates:




Saves the *parameter*, *antenna*, *sources*, and *scan* structure arrays from the **DATA/LEVEL1/** directory (file names same as in **DATA/LEVEL0/**).

# Files used and created by different parts of VieVS

## VIE\_LSM:


### Reads:


 The *parameter*, *antenna*, *sources*, and *scan* structure arrays from the **DATA/LEVEL1/** directory.

 OPT file

### Creates:

#### **DATA/LEVEL3/:**

 *x\_* (e.g. **x\_08AUG12XA\_N004.mat**) contains the estimated parameters.





 *opt\_* (e.g. **opt\_08AUG12XA\_N004.mat**) contains the lsm options.

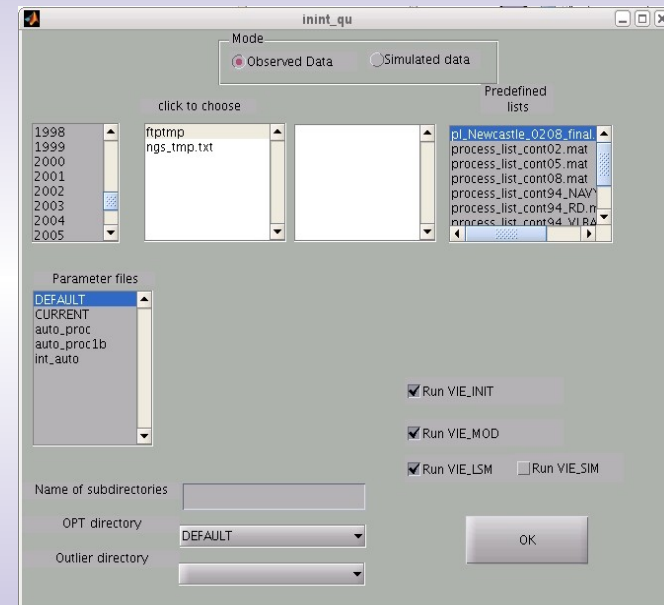
 *apta\_*, *atpl\_*: normal equation matrices.

 **DATA/LEVEL2/:** Data for global solution.

 **DATA/OUTLIER/:** Detected outliers

# How to start VieVS

-  Start MATLAB
-  Change directory to the **VieVS/WORK/** directory
-  Run: *views*
-  The GUI of VieVS should now be seen




# To just run VIE\_SETUP

- ▶ In MATLAB, run: *views('setup')*
- ▶ A files will be prepared (process\_list, runp, parameter files) but no processing will be done.

# Run VieVS in batch mode

 To run in batch mode (without GUI):

*views('batch')*

 Requires that all files (parameter files, process\_list, runp) have already been prepared.

# Run an older version of VieVS

📌 To e.g. run version 1b:

*views('1b')*

📌 (Replace '1b' with the version you want to run.)

📌 To run version 1b in batch mode:

*views('1b','batch')*

📌 Never mix different VieVS versions!