

```

Last login: Tue Feb 13 15:42:54 on ttys010
(base) clevenger@hclevs-MacBook-Pro ~ % pwd
/Users/clevenger
(base) clevenger@hclevs-MacBook-Pro ~ % conda activate lompe
(lompe) clevenger@hclevs-MacBook-Pro ~ % cd Projects
(lompe) clevenger@hclevs-MacBook-Pro Projects % cd isr_3d_vefs
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git status
On branch restructure
Your branch is up to date with 'origin/restructure'.

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    modified:   mag_datahandler.py

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    .DS_Store
    FIX_THIS.py
    __pycache__/
    old_scripts_DO_NOT_USE/
    restructure_run_script.py

no changes added to commit (use "git add" and/or "git commit -a")
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git status
On branch restructure
Your branch is up to date with 'origin/restructure'.

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    modified:   mag_datahandler.py

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    .DS_Store
    __pycache__/
    old_scripts_DO_NOT_USE/
    restructure_run_script.py

no changes added to commit (use "git add" and/or "git commit -a")
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git commit mag_datahandler.py
Aborting commit due to empty commit message.
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git add mag_datahandler.py
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git status
On branch restructure
Your branch is up to date with 'origin/restructure'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   mag_datahandler.py

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    .DS_Store
    __pycache__/
    old_scripts_DO_NOT_USE/
    restructure_run_script.py

(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git commit -m "magnetic field component reorder to match lompe syntax"
[restructure 03e5ec5] magnetic field component reorder to match lompe syntax
Committer: Hayley Clevenger <clevenger@hclevs-MacBook-Pro.local>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly:

    git config --global user.name "Your Name"
    git config --global user.email you@example.com

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

1 file changed, 1 insertion(+), 1 deletion(-)
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git status
On branch restructure
Your branch is ahead of 'origin/restructure' by 1 commit.
  (use "git push" to publish your local commits)

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    .DS_Store
    __pycache__/
    old_scripts_DO_NOT_USE/
    restructure_run_script.py

nothing added to commit but untracked files present (use "git add" to track)

```

```
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git push
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 12 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 350 bytes | 350.00 KiB/s, done.
Total 3 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To https://github.com/hayleycleve/isr_3d_vefs
13d3c88..03e5ec5 restructure -> restructure
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git checkout main
Switched to branch 'main'
Your branch is behind 'origin/main' by 10 commits, and can be fast-forwarded.
(use "git pull" to update your local branch)
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git status
git: 'status' is not a git command. See 'git --help'.
```

```
The most similar command is
status
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git status
On branch main
Your branch is behind 'origin/main' by 10 commits, and can be fast-forwarded.
(use "git pull" to update your local branch)
```

```
Untracked files:
(use "git add <file>..." to include in what will be committed)
.DS_Store
__pycache__/
old_scripts_DO_NOT_USE/
restructure_run_script.py
```

```
nothing added to commit but untracked files present (use "git add" to track)
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git checkout -b sandbox
Switched to a new branch 'sandbox'
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git branch
main
restructure
* sandbox
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git checkout main
Switched to branch 'main'
Your branch is behind 'origin/main' by 10 commits, and can be fast-forwarded.
(use "git pull" to update your local branch)
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git status
On branch main
Your branch is behind 'origin/main' by 10 commits, and can be fast-forwarded.
(use "git pull" to update your local branch)
```

```
Untracked files:
(use "git add <file>..." to include in what will be committed)
.DS_Store
__pycache__/
old_scripts_DO_NOT_USE/
restructure_run_script.py
```

```
nothing added to commit but untracked files present (use "git add" to track)
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git branch
```

```
* main
restructure
sandbox
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git merge restructure
Updating 4b501c9..03e5ec5
Fast-forward
```

README.md	37 +++++
file_generators/csv_to_h5_converter_tool.py	22 +++
file_generators/lompe_load_model_test.py	17 ++
file_generators/pfisir_vvls_generator_tool.py	113 ++++++
file_generators/vvls_generator.py	113 ++++++
fitacf_scripts/fitacf_reading_tester.py	12 ++
fitacf_scripts/lompe_fitacf_reading.py	216 ++++++
fitacf_scripts/superdarn_lompe_runscript.py	30 +++
mag_datahandler.py	42 +++++
misc_tools/load_model_test.py	17 ++
misc_tools/lompe_model_load_velocity_components_tool.py	193 ++++++
...pe_model_output_third_velocity_component_solving_tool.py	39 +++++
misc_tools/vvls_indexing_troubleshooting.py	185 ++++++
misc_tools/vvls_lompe_v_test.py	193 ++++++
model_run_scripts/lompe_pfisr_demo_ISSI_changes.py	128 ++++++
.../lompe_pfisr_model_run_time_indexing_updates.py	117 ++++++-----
.../lompe_pfisr_model_run_with_vvls_comparison.py	203 ++++++
pfisir_datahandler.py	92 ++++++
pfisir_run_lompe.py	83 ++++++
...ompe_comparison_tool_with_06162017_data_pfisr_and_mag.py	108 ++++++
plotting_tools/dce_map.png	Bin 0 -> 58544 bytes
plotting_tools/lompe_load_model_efield_plotting_tool.py	86 ++++++
plotting_tools/lompe_model_output_gif_tool.py	44 +++++
...tputs_and_pfisr_vvls_quiver_comparison_plotting_tool.py	185 ++++++
.../lompe_pfisr_swarmoverpoker_campaign_run_tool.py	140 ++++++

```

plotting_tools/multi_gif_scaling_tool.py | 44 +++++
plotting_tools/pfisir_vvells_gif_tool.py | 108 ++++++
plotting_tools/plasma_parameter_plotting_tool.py | 206 ++++++
.../plasma_parameter_vertical_bar_timing_gif_tool.py | 128 ++++++
plotting_tools/plasma_parameters_gif_generator.py | 128 ++++++
plotting_tools/plasma_params_generator.py | 206 ++++++
plotting_tools/plasma_params_gif_generator.py | 128 ++++++
plotting_tools/vertical_line_timing_gifs_tool.py | 79 ++++++
plotting_tools/vvells_comparison_tool_timing_testing.py | 96 ++++++
plotting_tools/vvells_north_and_east_plotting_tool.py | 113 ++++++
plotting_tools/vvells_plotting_tool.py | 79 ++++++
to_be_converted/fitacf_function_script_multi_time.py | 220 ++++++
to_be_converted/fitacf_run_script_multi_time.py | 50 ++++++
to_be_converted/lompe_demo_script_ll.py | 140 ++++++
to_be_converted/pfisir_with_mag_example.py | 36 +++++
40 files changed, 4113 insertions(+), 63 deletions(-)
create mode 100644 file_generators/csv_to_h5_converter_tool.py
create mode 100644 file_generators/lompe_load_model_test.py
create mode 100644 file_generators/pfisir_vvells_generator_tool.py
create mode 100644 file_generators/vvells_generator.py
create mode 100644 fitacf_scripts/fitacf_reading_tester.py
create mode 100644 fitacf_scripts/lompe_fitacf_reading.py
create mode 100644 fitacf_scripts/superdarn_lompe_runscript.py
create mode 100644 mag_datahandler.py
create mode 100644 misc_tools/load_model_test.py
create mode 100644 misc_tools/lompe_model_load_velocity_components_tool.py
create mode 100644 misc_tools/lompe_model_output_third_velocity_component_solving_tool.py
create mode 100644 misc_tools/vvells_indexing_troubleshooting.py
create mode 100644 misc_tools/vvells_lompe_v_test.py
create mode 100644 model_run_scripts/lompe_pfisir_demo_ISSI_changes.py
rename lompe_pfisir_run_full_file.py => model_run_scripts/lompe_pfisir_model_run_time_indexing_updates.py (51%)
create mode 100644 model_run_scripts/lompe_pfisir_model_run_with_vvells_comparison.py
create mode 100644 pfisir_datahandler.py
create mode 100644 pfr_run_lompe.py
create mode 100644 plotting_tools/01022024_rename_vvells_lompe_comparison_tool_with_06162017_data_pfisir_and_mag.py
create mode 100644 plotting_tools/dce_map.png
create mode 100644 plotting_tools/lompe_load_model_efield_plotting_tool.py
create mode 100644 plotting_tools/lompe_model_output_gif_tool.py
create mode 100644 plotting_tools/lompe_model_outputs_and_pfisir_vvells_quiver_comparison_plotting_tool.py
create mode 100644 plotting_tools/lompe_pfisir_swarmoverpoker_campaign_run_tool.py
create mode 100644 plotting_tools/multi_gif_scaling_tool.py
create mode 100644 plotting_tools/pfisir_vvells_gif_tool.py
create mode 100644 plotting_tools/plasma_parameter_plotting_tool.py
create mode 100644 plotting_tools/plasma_parameter_vertical_bar_timing_gif_tool.py
create mode 100644 plotting_tools/plasma_parameters_gif_generator.py
create mode 100644 plotting_tools/plasma_params_generator.py
create mode 100644 plotting_tools/plasma_params_gif_generator.py
create mode 100644 plotting_tools/vertical_line_timing_gifs_tool.py
create mode 100644 plotting_tools/vvells_comparison_tool_timing_testing.py
create mode 100644 plotting_tools/vvells_north_and_east_plotting_tool.py
create mode 100644 plotting_tools/vvells_plotting_tool.py
create mode 100644 to_be_converted/fitacf_function_script_multi_time.py
create mode 100644 to_be_converted/fitacf_run_script_multi_time.py
create mode 100644 to_be_converted/lompe_demo_script_ll.py
create mode 100644 to_be_converted/pfisir_with_mag_example.py
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % ls
README.md pfisir_datahandler.py
__pycache__ pfisir_example.py
file_generators pfr_run_lompe.py
fitacf_scripts plotting_tools
mag_datahandler.py restructure_branch
misc_tools restructure_run_script.py
model_run_scripts to_be_converted
old_scripts_DO_NOT_USE untitled folder
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % rmdir untitled\ folder
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % rmdir restructure_branch
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % ls
README.md mag_datahandler.py pfisir_datahandler.py restructure_run_script.py
__pycache__ misc_tools pfisir_example.py to_be_converted
file_generators model_run_scripts pfr_run_lompe.py
fitacf_scripts old_scripts_DO_NOT_USE plotting_tools
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % ls .py
ls: .py: No such file or directory
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % ls *.py
mag_datahandler.py pfisir_datahandler.py pfr_run_lompe.py restructure_run_script.py
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git branch
* main
restructure
sandbox
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git branch -d restructure
Deleted branch restructure (was 03e5ec5).
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git branch
* main
sandbox
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git push
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/hayleycleve/isr_3d_vefs

```

```

4a5a4b3..03e5ec5  main -> main
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git status
On branch main
Your branch is up to date with 'origin/main'.

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        deleted:    pfisr_example.py

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        .DS_Store
        __pycache__/_
        old_scripts_DO_NOT_USE/
        restructure_run_script.py

no changes added to commit (use "git add" and/or "git commit -a")
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git add pfisr_example.py
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git status
On branch main
Your branch is up to date with 'origin/main'.

```

```

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        deleted:    pfisr_example.py

```

```

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        .DS_Store
        __pycache__/_
        old_scripts_DO_NOT_USE/
        restructure_run_script.py

```

```

(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git commit -m "cleanup after merge - replacing run script"
[main 3606c37] cleanup after merge - replacing run script
Committer: Hayley Clevenger <clevenger@hclevs-MacBook-Pro.local>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly:

```

```

git config --global user.name "Your Name"
git config --global user.email you@example.com

```

After doing this, you may fix the identity used for this commit with:

```
git commit --amend --reset-author
```

```

1 file changed, 33 deletions(-)
delete mode 100644 pfisr_example.py
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git push
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 12 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (2/2), 264 bytes | 264.00 KiB/s, done.
Total 2 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/hayleyclev/isr_3d_vefs
03e5ec5..3606c37  main -> main
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git status
On branch main
Your branch is up to date with 'origin/main'.

```

```

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        .DS_Store
        __pycache__/_
        old_scripts_DO_NOT_USE/
        restructure_run_script.py

```

```

nothing added to commit but untracked files present (use "git add" to track)
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git checkout sandbox
Switched to branch 'sandbox'
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git status
On branch sandbox
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        .DS_Store
        __pycache__/_
        old_scripts_DO_NOT_USE/
        restructure_run_script.py

```

```

nothing added to commit but untracked files present (use "git add" to track)
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git push
fatal: The current branch sandbox has no upstream branch.
To push the current branch and set the remote as upstream, use

```

```
git push --set-upstream origin sandbox
```

To have this happen automatically for branches without a tracking upstream, see 'push.autoSetupRemote' in 'git help config'.

```
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git push --set-upstream origin sandbox
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'sandbox' on GitHub by visiting:
remote:   https://github.com/hayleycleve/isr_3d_vefs/pull/new/sandbox
remote:
To https://github.com/hayleycleve/isr_3d_vefs
 * [new branch]      sandbox -> sandbox
branch 'sandbox' set up to track 'origin/sandbox'.
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % spyder
Spyder is already running. If you want to open a new
instance, please use the --new-instance option
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % spyder --new-instance
The available OpenGL surface format was either not version 3.2 or higher or not a Core Profile.
Chromium on macOS will fall back to software rendering in this case.
Hardware acceleration and features such as WebGL will not be available.
fromIccProfile: failed minimal tag size sanity
2024-02-14 09:55:21.755 python[66373:55204263] +[CATransaction synchronize] called within transaction
^C
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git branch
main
* sandbox
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git branch
* main
  sandbox
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs % spyder --new-instance
The available OpenGL surface format was either not version 3.2 or higher or not a Core Profile.
Chromium on macOS will fall back to software rendering in this case.
Hardware acceleration and features such as WebGL will not be available.
fromIccProfile: failed minimal tag size sanity
2024-02-14 09:56:41.483 python[67290:55207965] +[CATransaction synchronize] called within transaction
2024-02-15 11:20:35.796 python[67290:55207965] +[CATransaction synchronize] called within transaction
(lompe) clevenger@hclevs-MacBook-Pro isr_3d_vefs %
[Restored Mar 5, 2024 at 9:47:10 AM]
Last login: Tue Mar 5 09:47:10 on ttys005
Restored session: Tue Mar 5 09:46:27 EST 2024
(base) clevenger@hclevs-MacBook-Pro isr_3d_vefs %
[Restored Apr 4, 2024 at 6:33:07 PM]
Last login: Thu Apr 4 18:33:05 on console
Restored session: Thu Apr 4 18:32:12 EDT 2024
(base) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git status
On branch main
Your branch is up to date with 'origin/main'.
```

```
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   fitacf_scripts/superdarn_lompe_runscript.py
        modified:   mag_datahandler.py
        modified:   pfrr_run_lompe.py
```

```
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        .DS_Store
        TEST_pfrr_run_lompe.py
        TEST_swarm_mag_a_datahandler.py
        TEST_swarm_mag_b_datahandler.py
        TEST_swarm_mag_c_datahandler.py
        __pycache__/
        load_model_tester.py
        model_load_diff.py
        pfrr_runscript.py
        swarm_a_flow_datahandler.py
        swarm_a_mag_datahandler.py
        swarm_b_flow_datahandler.py
        swarm_c_flow_datahandler.py
        swarm_datahandler.py
        swarm_flow_new_tester.py
        swarm_flow_tester.py
```

```
no changes added to commit (use "git add" and/or "git commit -a")
(base) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git commit TEST_pfrr_run_lompe
error: pathspec 'TEST_pfrr_run_lompe' did not match any file(s) known to git
(base) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git commit TEST_pfrr_run_lompe.py
error: pathspec 'TEST_pfrr_run_lompe.py' did not match any file(s) known to git
(base) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git add TEST_pfrr_run_lompe.py
(base) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git add TEST_swarm_mag_a_datahandler.py
(base) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git add TEST_swarm_mag_b_datahandler.py
```

```
(base) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git add TEST_swarm_mag_c_datahandler.py
(base) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git add load_model_tester.py
(base) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git add model_load_diff.py
(base) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git add pfrr_runscript.py
(base) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git commit -m "adding swarm mag scripts and lompe area mapping test scripts"
[main b05fe11] adding swarm mag scripts and lompe area mapping test scripts
  Committer: Hayley Clevenger <clevenger@hclevs-MacBook-Pro.local>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly:
```

```
git config --global user.name "Your Name"
git config --global user.email you@example.com
```

After doing this, you may fix the identity used for this commit with:

```
git commit --amend --reset-author
```

```
7 files changed, 662 insertions(+)
create mode 100644 TEST_pfrr_run_lompe.py
create mode 100644 TEST_swarm_mag_a_datahandler.py
create mode 100644 TEST_swarm_mag_b_datahandler.py
create mode 100644 TEST_swarm_mag_c_datahandler.py
create mode 100644 load_model_tester.py
create mode 100644 model_load_diff.py
create mode 100644 pfrr_runscript.py
(base) clevenger@hclevs-MacBook-Pro isr_3d_vefs % git push
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Delta compression using up to 12 threads
Compressing objects: 100% (9/9), done.
Writing objects: 100% (9/9), 6.18 KiB | 6.18 MiB/s, done.
Total 9 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), done.
To https://github.com/hayleyclevenger/isr_3d_vefs
  3606c37..b05fe11  main -> main
(base) clevenger@hclevs-MacBook-Pro isr_3d_vefs %
```