GW Open Data Workshop
April 18-20, 2024

Continuous Gravitational Waves: Instruction to start tutorials

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Preparation

Materials

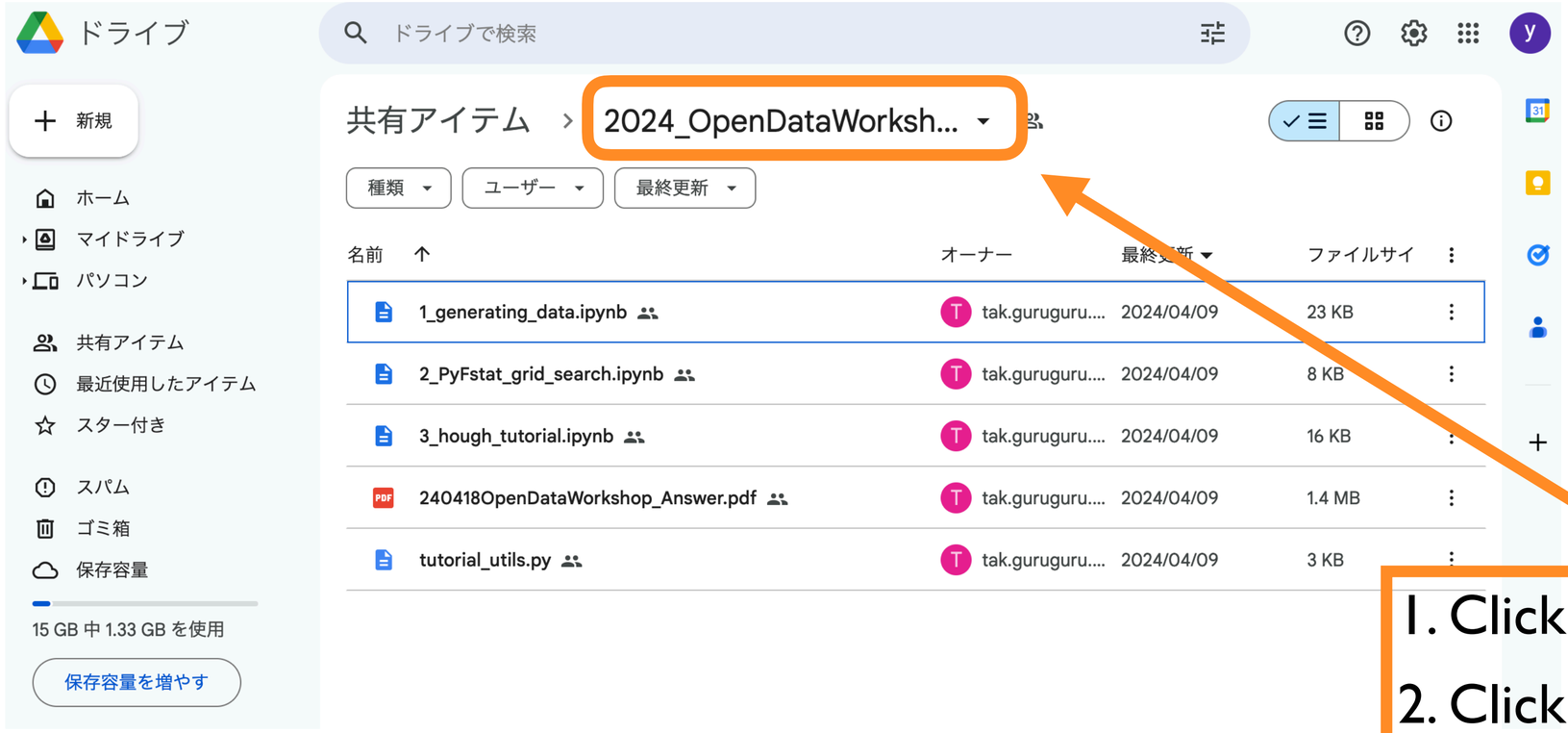
Link: https://drive.google.com/drive/folders/1mh6gEbc7f3tfgtxnFLC0RrbMVrqqacSR?usp=sharing

In the shared GoogleDrive folder, you can find the following files (3 notebooks, 1 pdf, and 1 script).

- 1_datagenerating_data.ipynb [data generation by PyFstat. Data will be used in the following.]
- 2_PyFstat_grid_search.ipynb [Search by PyFstat]
- 3_hough_transform.ipynb [Search by Hough transform]
- tutorial_utils.py [Providing useful tools to plot the figures.]
- 240418OpenDataWorkshop_Answer.pdf [Answers to the questions]
- 240418OpenDataWorkshop_Instruction.pdf [This slide]

Copy the materials to your GoogleDrive

Link: https://drive.google.com/drive/folders/1mh6gEbc7f3tfgtxnFLC0RrbMVrqqacSR?usp=sharing



1. Click here
2. Click “Download”

>> A zip file is saved at your local PC

3. Unzip the zip file

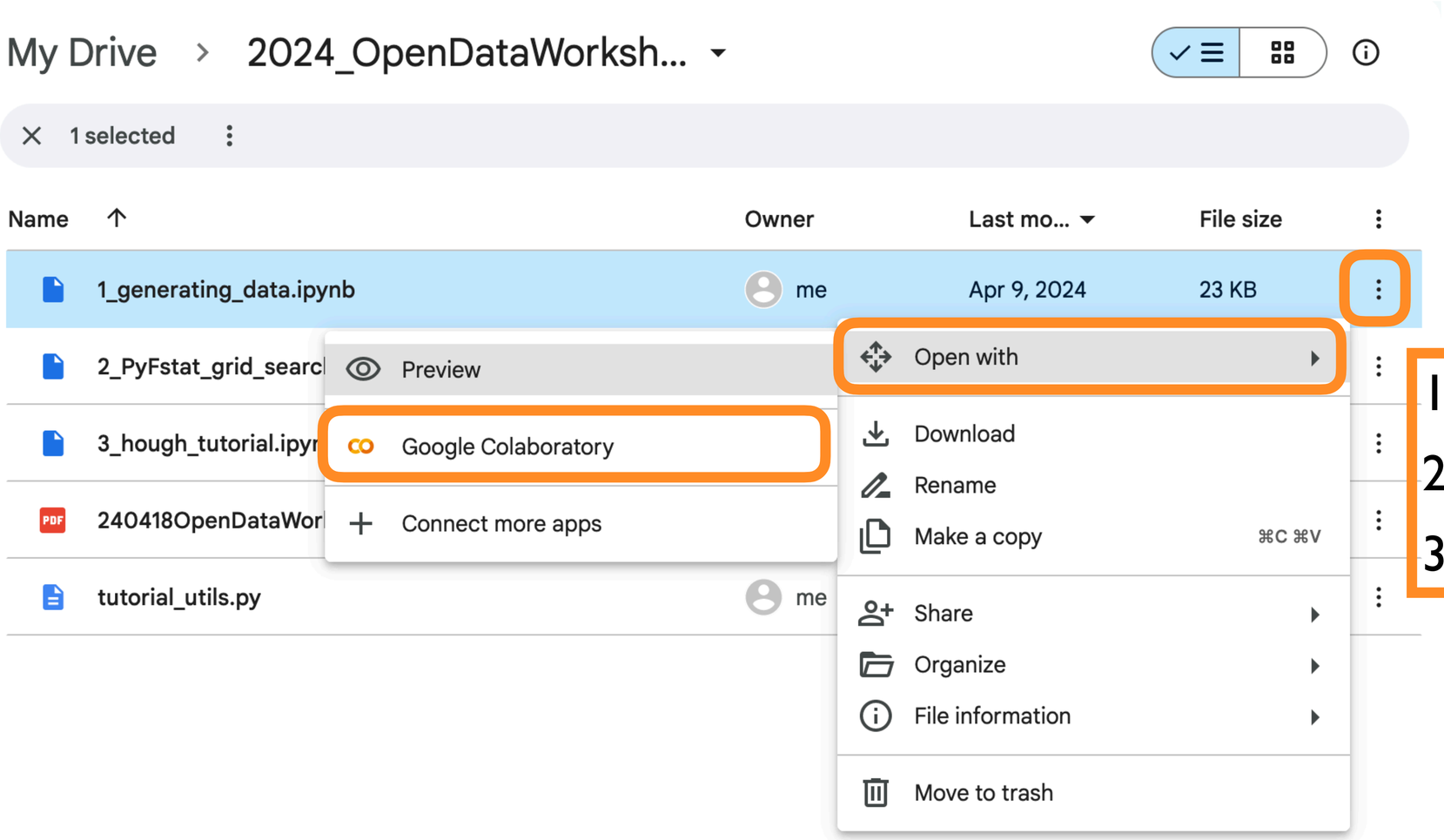
Copy the materials to your GoogleDrive

4. Click “MyDrive”

5. Upload the downloaded folder to “MyDrive” by drag-and-drop or push “New” button)

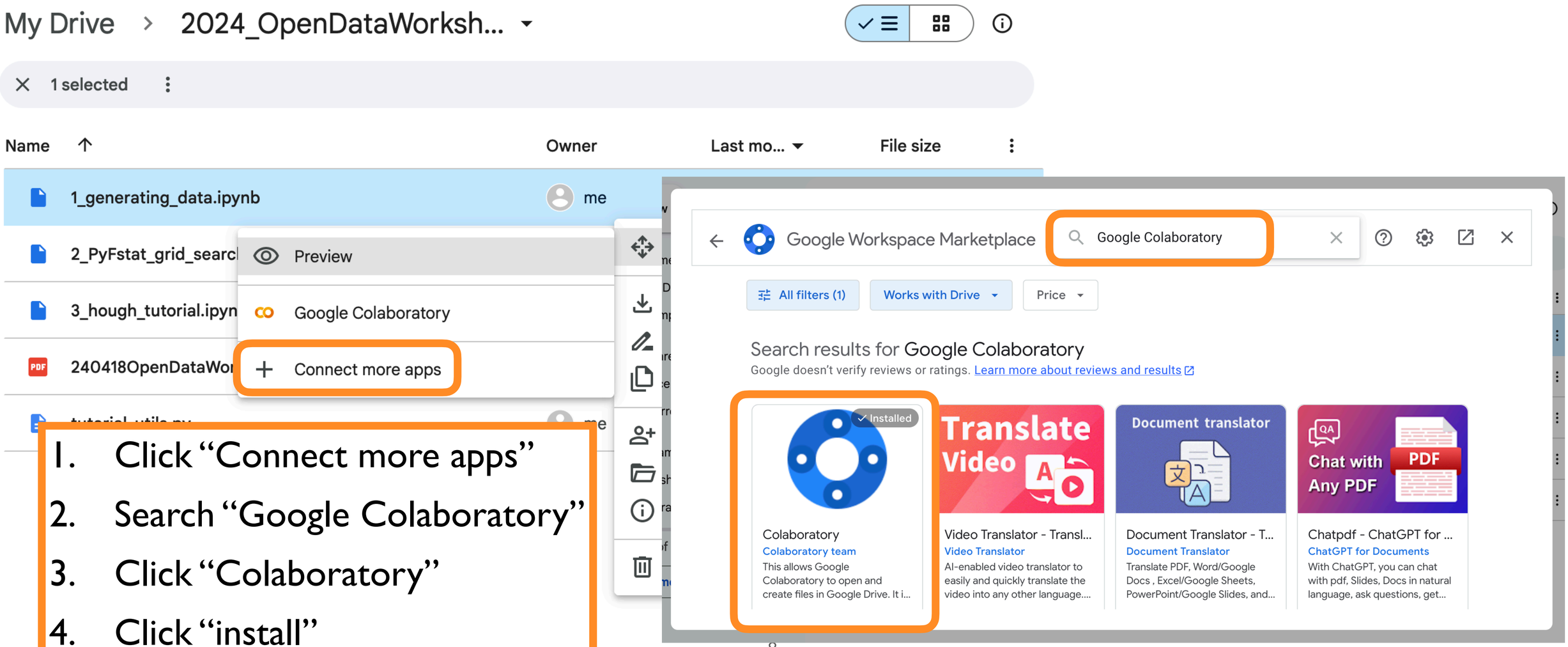
Copy the materials to your GoogleDrive

Open notebooks by GoogleColab



1. Click 3dots
2. Click "Open with"
3. Select "Google Colaboratory"

If you cannot find “Google Colaboratory”



1. Click “Connect more apps”
2. Search “Google Colaboratory”
3. Click “Colaboratory”
4. Click “install”

Install module
&
mount “MyDrive”

Common procedure for all notebooks

In every notebook, we install modules (“PyFstat”, and “pyhough” for 3rd nb) and mount “MyDrive” to allow the notebook access to your drive.

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In every notebook, we install modules (“PyFstat”, and “pyhough” for 3rd nb) and mount “MyDrive” to allow the notebook access to your drive.

First, you install the module `pyfstat`. At this moment, `numpy` will be reinstalled (Google colab preinstalled numpy, but it is not compatible with the pyfstat's requirement). After installing `numpy` and `pyfstat`, you need to restart the notebook. You just follow the popup.

```
[ ]  !pip install pyfstat
```

Common procedure for all notebooks

In every notebook, we install modules ("PyFstat", and "pyhough" for 3rd nb) and mount "MyDrive" to allow the notebook access to your drive.

You mount your google drive directory on this notebook. After that, you change the working directory to `2024_OpenDataWorkshop_cw`.

```
#----------------------
# Setting up the environment
#----------------------
from google.colab import drive
drive.mount('/content/drive')
%cd /content/drive/MyDrive/2024_OpenDataWorkshop_cw
!ls
```

Common procedure for all notebooks

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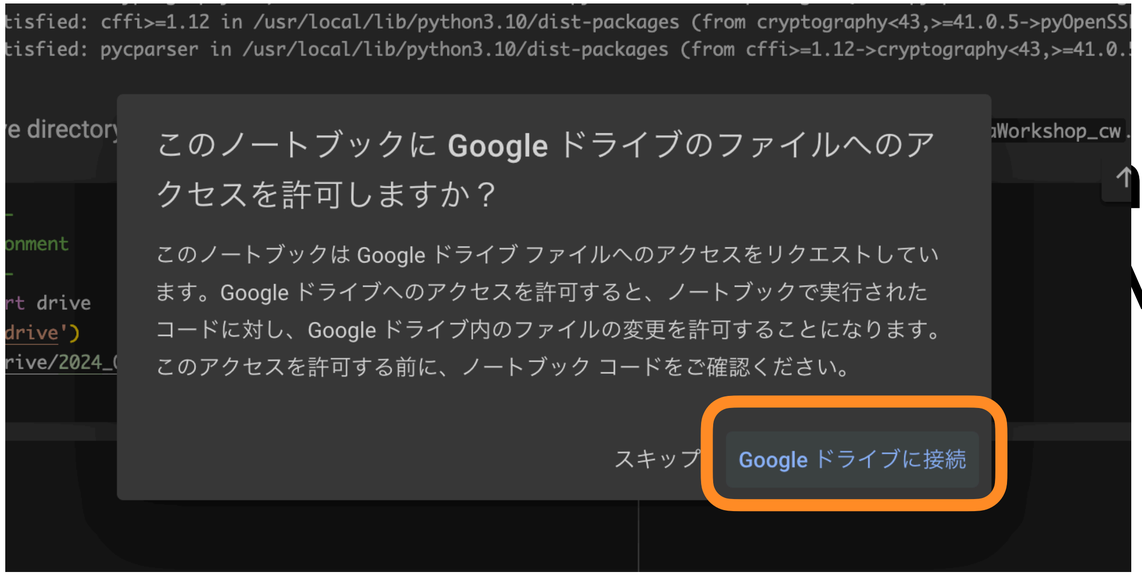
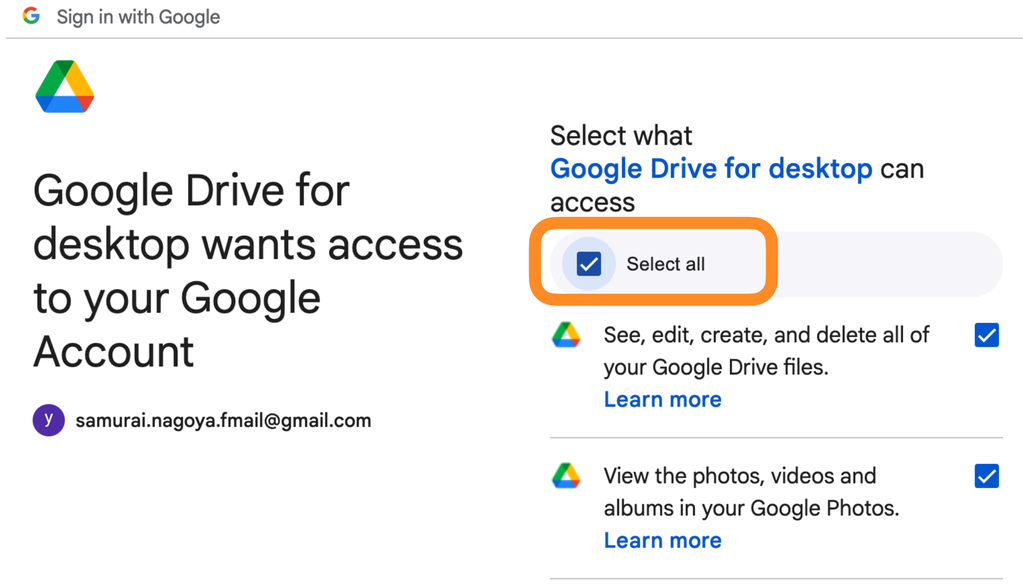


Connect to GoogleDrive



Click “Connect”

Common procedure for all notebooks

In every notebook, we install modules ("PyFstat", and "pyhough" for 3rd nb) and mount "MyDrive" to allow the notebook access to your drive.

The simulated data will be saved in the directory,

e.g., /content/drive/MyDrive/2024_OpenDataWorkshop_cw