

plot_basic_activities

January 11, 2021

Load activpal20.csv into dataframe for a correspondent and show various activity plots

```
[1]: from helpers import pandas_helper
from helpers import math_helper as mth
import matplotlib.pyplot as plt

# define correspondent: BMR008
correspondent = 'BMR008'

# load dataframe
activpal20_df = pandas_helper.read_csv_activpal20(correspondent)
activpal20_df = activpal20_df[['pal_accX', 'pal_accY', 'pal_accZ']].apply(mth.
    ↪convert_value_to_g)

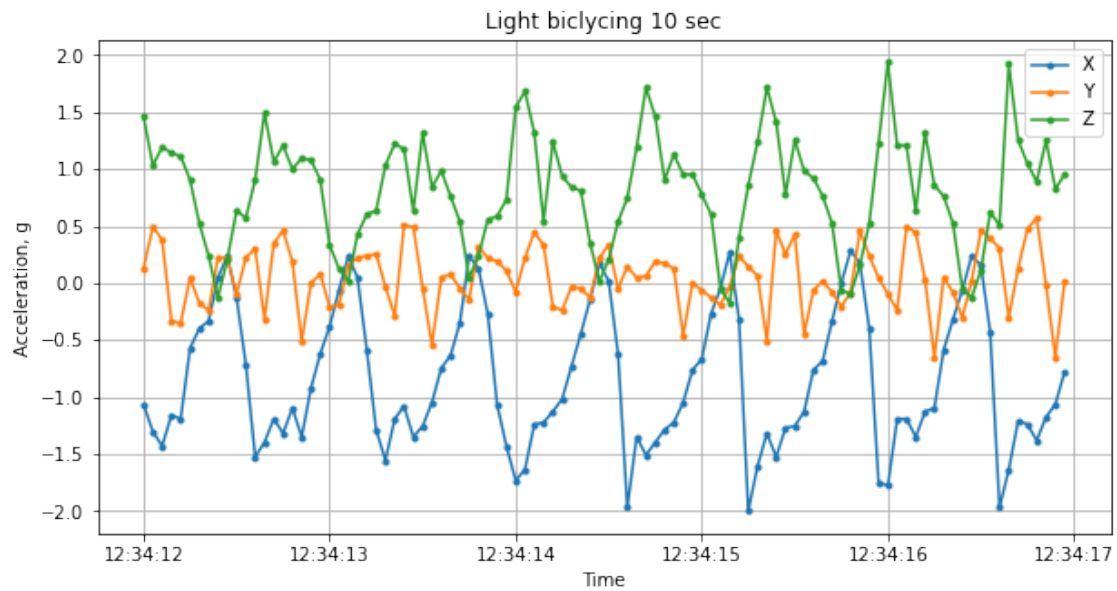
# Rename columns
renaming_cols = {'pal_accX': 'X', 'pal_accY': 'Y', 'pal_accZ': 'Z'}
activpal20_df = activpal20_df.rename(columns=renaming_cols)
```

```
[60]: def plot_activity_df(df, title = '', xlabel = 'Time', ylabel = 'Acceleration,
    ↪g'):
    plt.figure(figsize=(10,5))
    plt.title(title)
    plt.plot(df.index, df['X'], label='X', marker='.')
    plt.plot(df.index, df['Y'], label='Y', marker='.')
    plt.plot(df.index, df['Z'], label='Z', marker='.')
    plt.xlabel(xlabel)
    plt.ylabel(ylabel)
    plt.grid()
    plt.legend(loc='best')
    plt.show()
```

Plot line magnitude acceleration bicycling light

```
[69]: # load bicycling_light df
bicycling_light_df = pandas_helper.get_activity_in_df(activpal20_df,
    ↪correspondent, 'fietsen licht')[100]
```

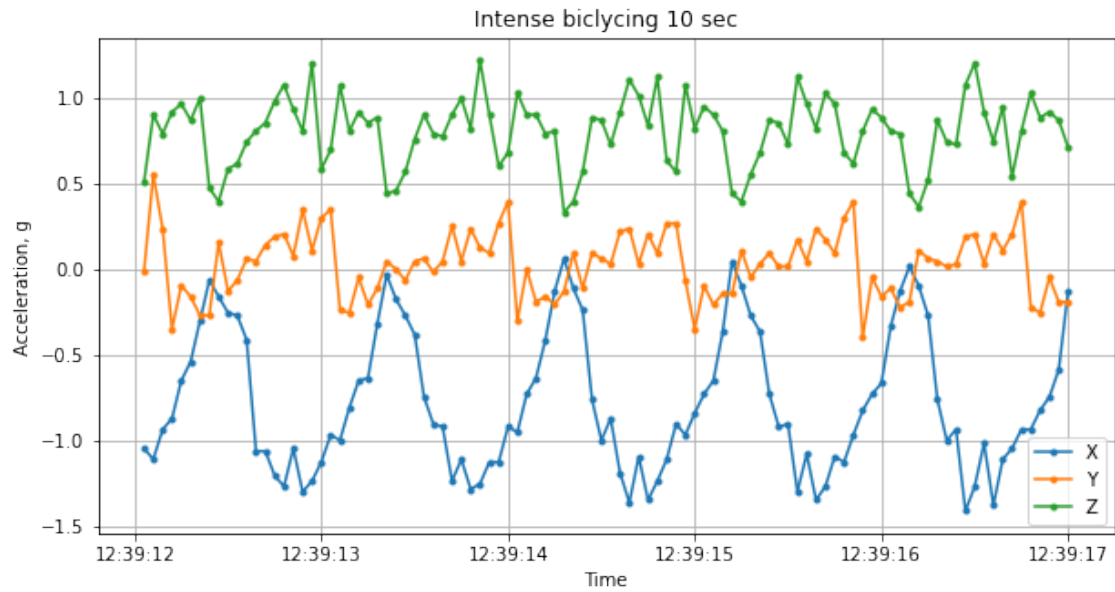
```
# Plot bicycling_light_df with magnitude of acceleration
plot_activity_df(bicycling_light_df, title = 'Light bicycling 5 sec')
```



Plot line magnitude acceleration bicycling intense

```
[68]: # load bicycling_intense df
bicycling_intense_df = pandas_helper.get_activity_in_df(activpal20_df, ↵
↳correspondent, 'fietsen zwaar')[1:100]

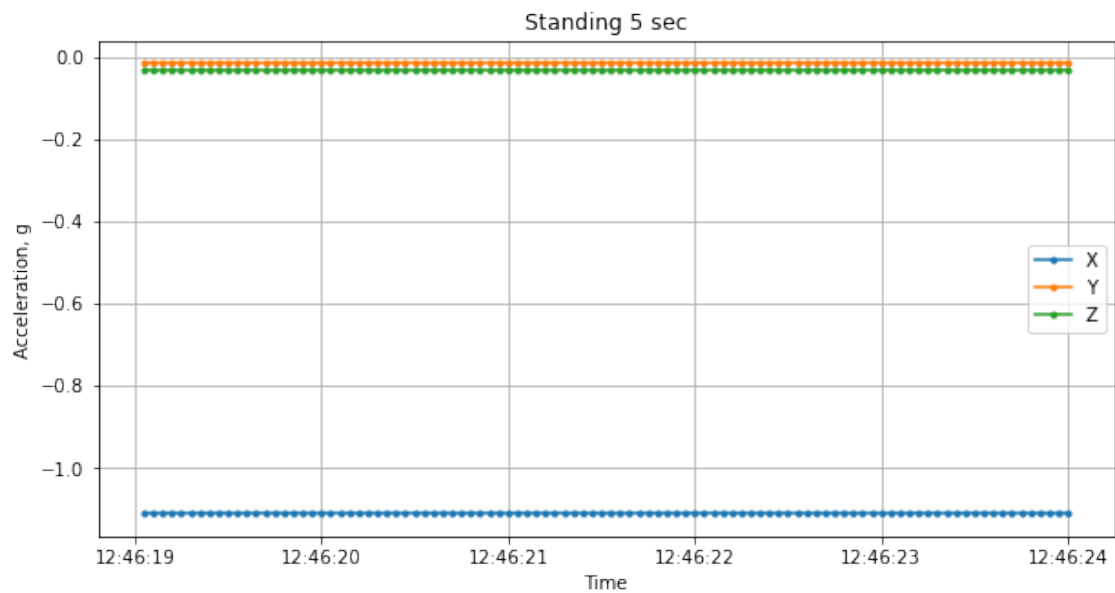
# Plot bicycling_intense_df with magnitude of acceleration
plot_activity_df(bicycling_intense_df, title = 'Intense bicycling 5 sec')
```



Plot line magnitude acceleration standing

```
[63]: # load standing df
standing_df = pandas_helper.get_activity_in_df(activpal20_df, correspondent,
↪ 'staan')[100]

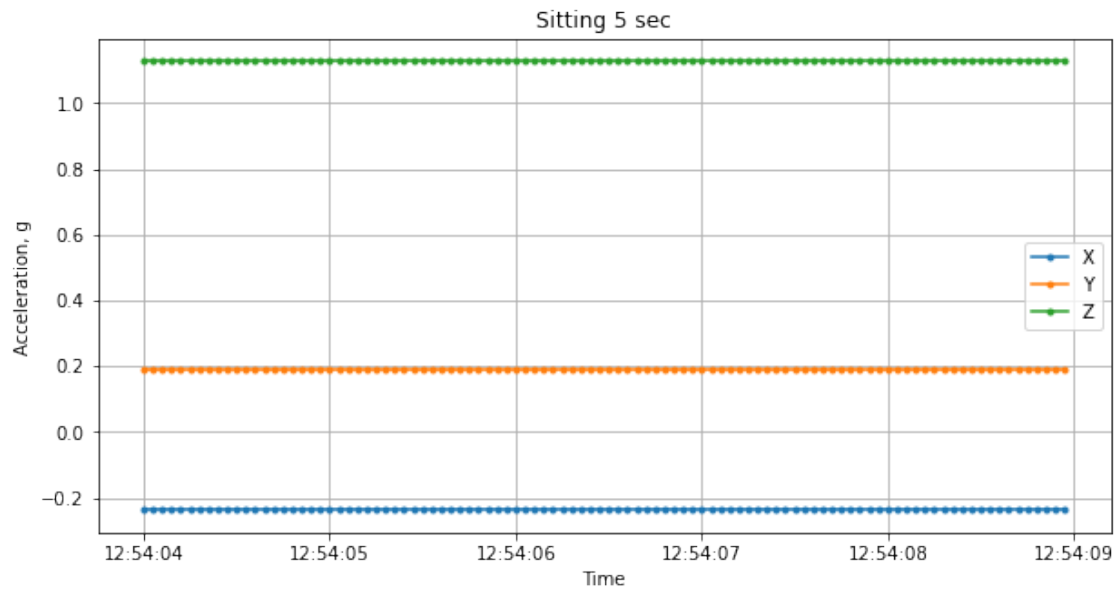
# Plot standing with magnitude of acceleration
plot_activity_df(standing_df, title = 'Standing 5 sec')
```



Plot line magnitude acceleration sitting

```
[64]: # load sitting df
sitting_df = pandas_helper.get_activity_in_df(activpal20_df, correspondent, ↵
↵ 'zitten')[:100]

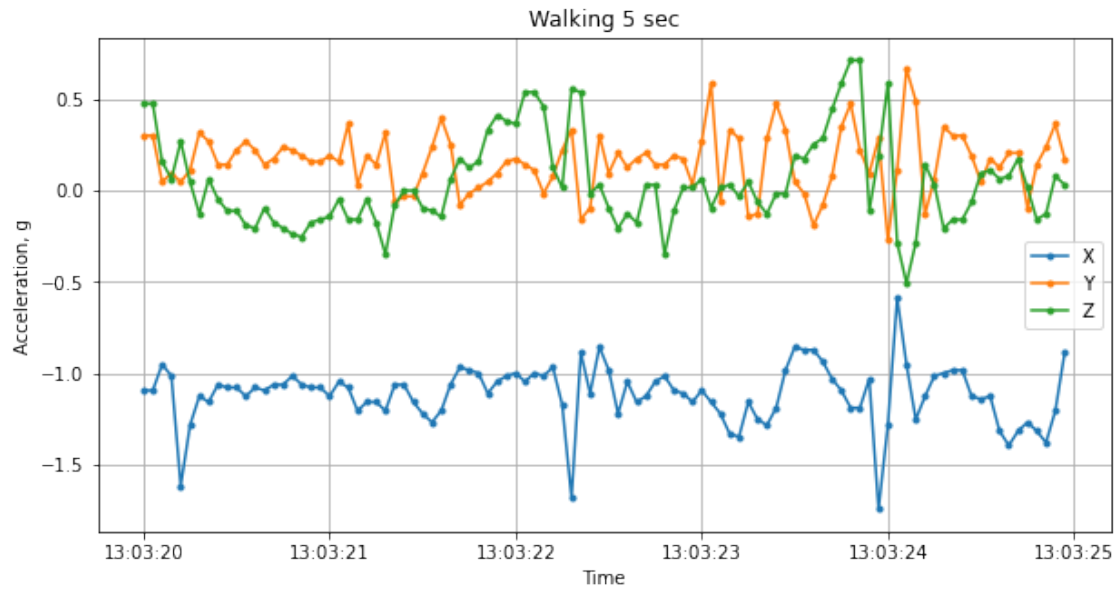
# Plot sitting with magnitude of acceleration
plot_activity_df(sitting_df, title = 'Sitting 5 sec')
```



Plot line magnitude acceleration walking

```
[75]: # load walking df
walking_df = pandas_helper.get_activity_in_df(activpal20_df, correspondent, ↵
↵ 'lopen')[:100]

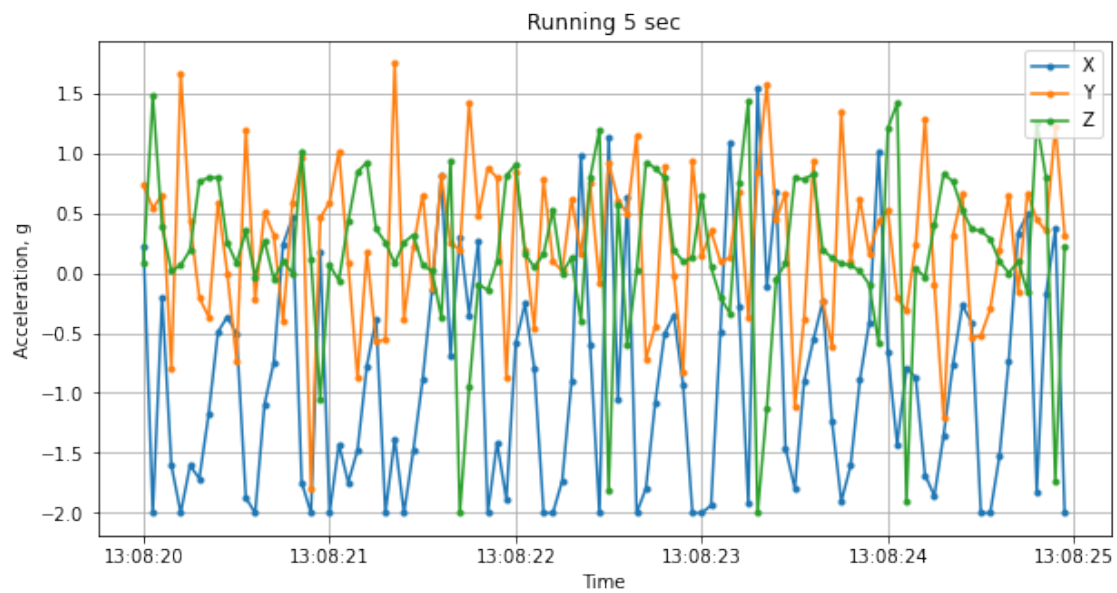
# Plot walking_df with magnitude of acceleration
plot_activity_df(walking_df, title = 'Walking 5 sec')
```



Plot line magnitude acceleration running

```
[77]: # load running df
running_df = pandas_helper.get_activity_in_df(activpal20_df, correspondent, ↵
↵ 'rennen')[:100]

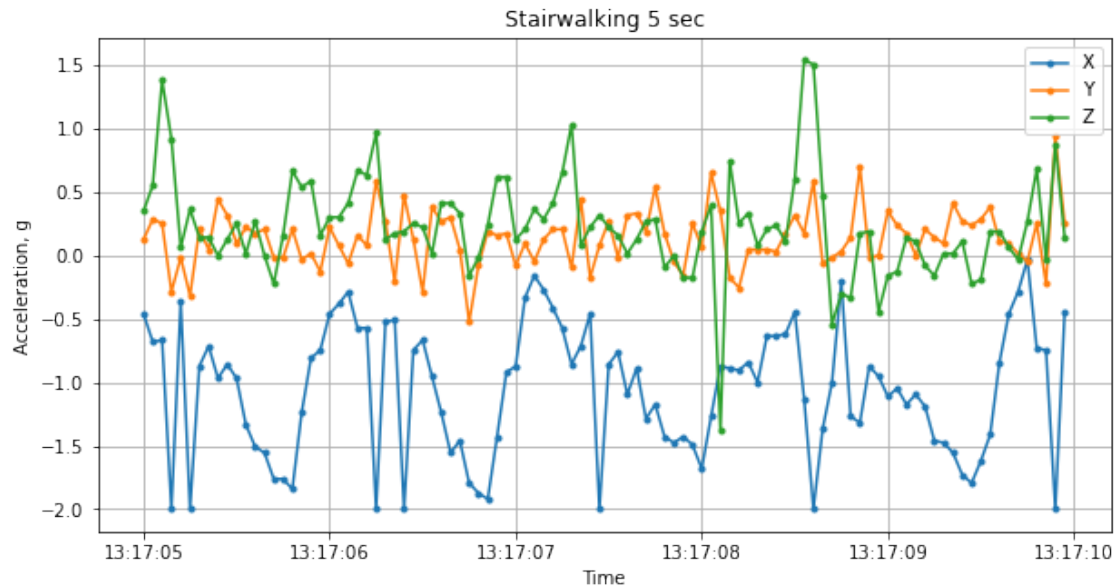
# Plot running
plot_activity_df(running_df, title = 'Running 5 sec')
```



Plot line magnitude acceleration stairwalking

```
[67]: # load stairwalking df
stairwalking_df = pandas_helper.get_activity_in_df(activpal20_df,
↳correspondent, 'traplopen')[:100]

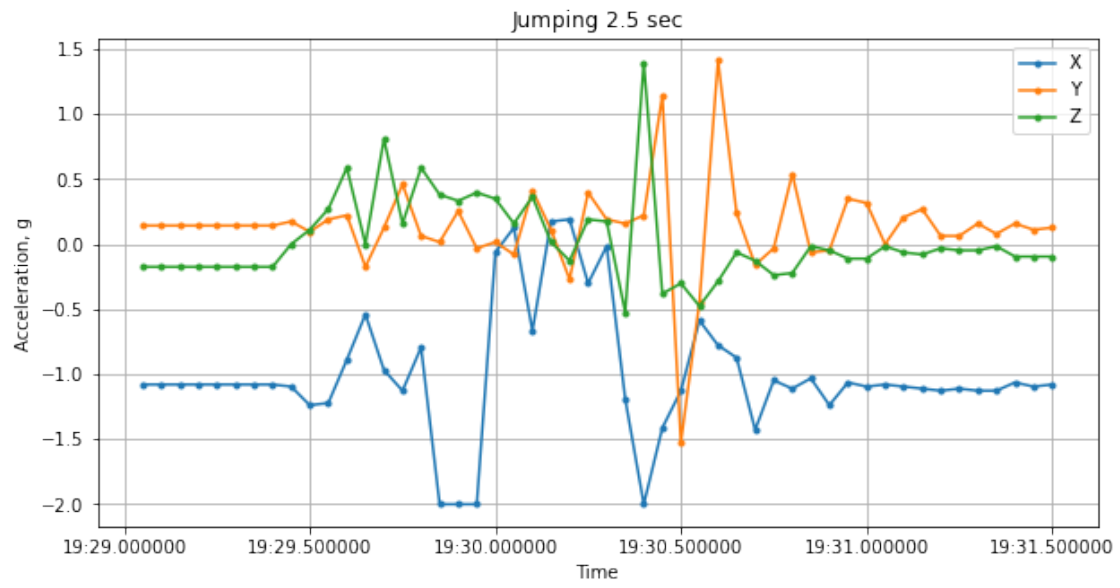
# Plot stairwalking
plot_activity_df(stairwalking_df, title = 'Stairwalking 5 sec')
```



Plot line magnitude acceleration jumping

```
[79]: # load stairwalking df
jumping_df = pandas_helper.get_activity_in_df(activpal20_df, correspondent,
↳'springen')[300:350]

# Plot jumping
plot_activity_df(jumping_df, title = 'Jumping 2.5 sec')
```



[]: