Plot measurements from 2 channels

- This script loads .tiff files (containing microscopy movies), and .mat files (containing (x,y,frame) data), from two measured channels (e.g., GFP and mCherry). The detected granules in both channels are matched together by their position, and intensity signals from each granule are plotted.

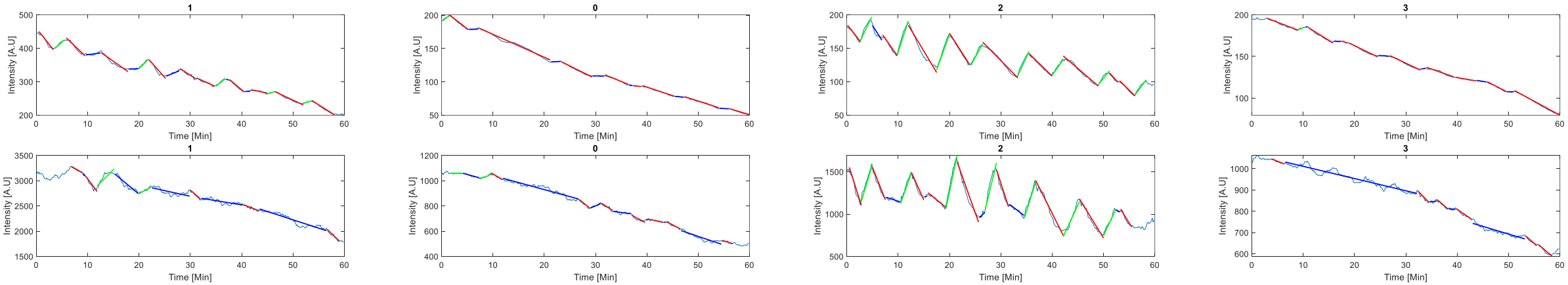
Parameter settings

- The script requires 2 variables to run
  - channel_1_file_path – path to a folder containing tiff files of the first channel, and mat files containing (x,y,frame) data from each identified bright spot.
  - channel_2_file_path – path to a folder containing tiff files of the second channel, and mat files containing (x,y,frame) data from each identified bright spot.
- Plotting variables
  - plot_max – Maximum number of signals to plot.
- Segment classification variables
  - match_probability – look for segments of nearly continues increment/decrement with a probability of occurrence lower than $\frac{1}{2^{match}_{probability}}$
  - Window_span – moving average filter span.

Script demo results

The script is provided with a demo: measurements in 2 channels (488 [nm], 585 [nm]) of PCP-8x granules.

Running the script as is without changing the variables results in the following plots:



Notes

- The script is scalable – addition of more files to the corresponding folders (.tiff and accompanying .mat files) will result in more plots.
- The script does not name match the files from the different channels. Please make sure naming match between channel 1 files and channel 2 files (numbering is best).
- In the resulting plots channel 1 is top, channel 2 is bottom.