

# animARide Parser & Editor

**GoPro Parser Tool** extracts GPMF motion data from GoPro camcorders: Hero 5+, Fusion and MAX at 100Hz frequency by three axes:

**Accelerometer,  $m/s^2$**

**Gyroscope, rad/s**

**Angles, degrees**

**Speed, m/s**

**Magnetometer,  $\mu T$**

to following structure:

| Ms | AccIX   | AccIY   | AccIZ   | GyroX   | GyroY   | GyroZ  | CurX    | CurY   | CurZ   | Speed  | MagnX | MagnY | MagnZ |
|----|---------|---------|---------|---------|---------|--------|---------|--------|--------|--------|-------|-------|-------|
| 0  | -0.7919 | -0.3708 | -9.0694 | -0.0005 | -0.0064 | 0.0011 | -2.2765 | -2.667 | 0.1335 | 0.6767 | 0     | 0     | 0     |

Click  button and choose **raw** .MP4 or .360 file from where motion data should be extracted. Click  button to start extraction process. New motion data file will be created in the same folder and the same name as video file.

- Important, concerning video files of GoPro Fusion: this camera creates two video files GPFR00XX.MP4 and GPBK00XX.MP4, but only GPFR00XX.MP4 file includes GPMF data and should be chosen.

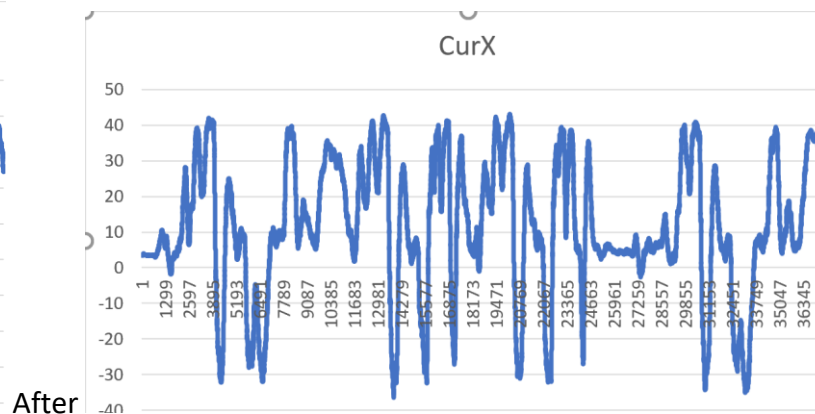
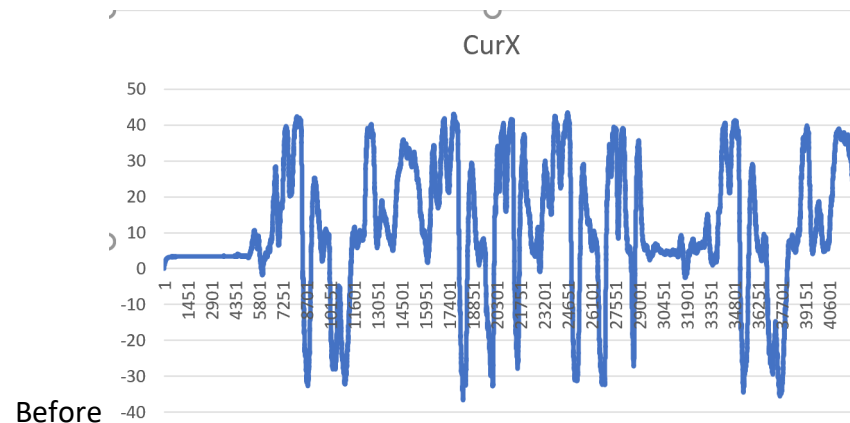
**Motion Data Editor Tool** edits data file .4DR, created by upper tool, or by our app for iOS "[animARide MVC](#)". Following settings can be edited

and saved. Click  button and choose .4DR file. The name of output file could be changed.

## Cutting out data rows, according Time Code value, after edition of parent video

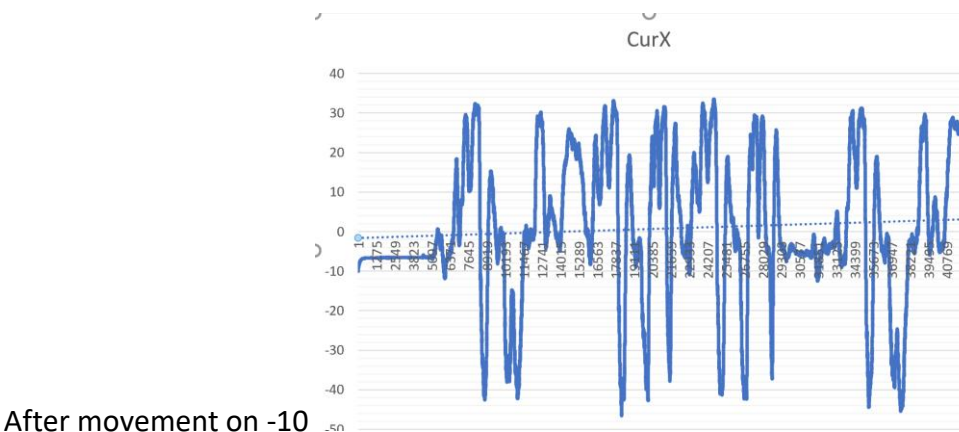
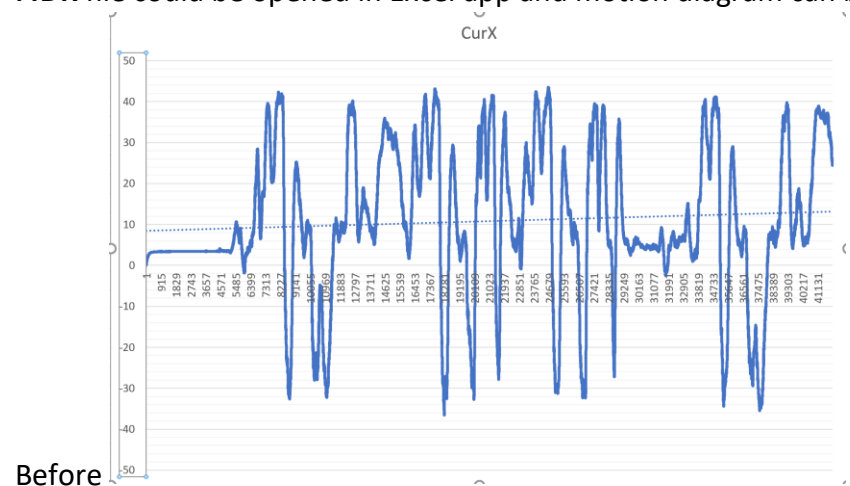
It's setting up of synchronization between video and motion data. In case .4DR file from GoPro camera, can be used only when a beginning of playback has been changed. Raw video file of GoPro begins from zero point of Time Code **00:00:00:00**. After editor, check Time Code value of first frame and insert the value into tool's field. After execution, all rows before indicated Time Code will be removed and all values of milliseconds in first column of .4DR file will be re-assigned.

In case **.4DR** files from iPhone, in an editor, video file from panoramic camera and video file from iPhone should be synchronized before. In an editor, mark a point of a beginning of panoramic video file. Get Time Code value of iPhone video file, corresponded to first frame of panoramic video, and insert the value into tool's field. After execution, all rows before indicated Time Code will be removed and all values of milliseconds in first column of **.4DR** file will be re-assigned.



**Changing the angles, separately by each axis, on a constant value**

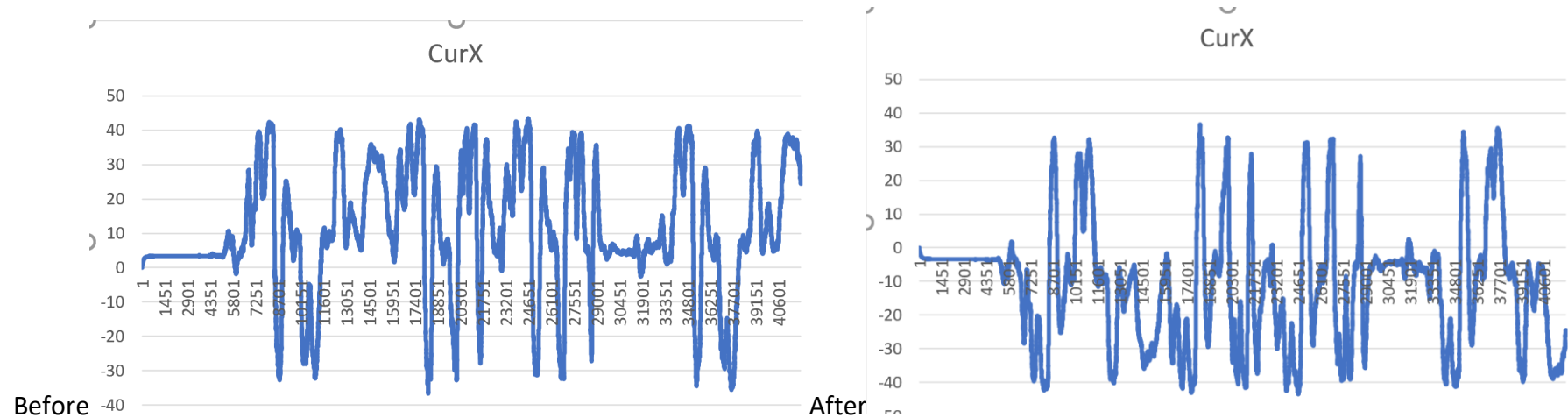
**.4DR** file could be opened in Excel app and motion diagram can be applied. A trend line for each axis will show data offset:



### Adjusting Sensitivity of motion for angles re-calculation

The setting increases a share of accelerometer and decreases a share of Gyroscope for angles calculation. This increases motion sensitivity because reveals small vibrations.

### Inversion of angles, in case wrong camera orientation



When everything was set up, click  button to submit new **.4DR** file. New motion data file will be created in the same folder as initial.