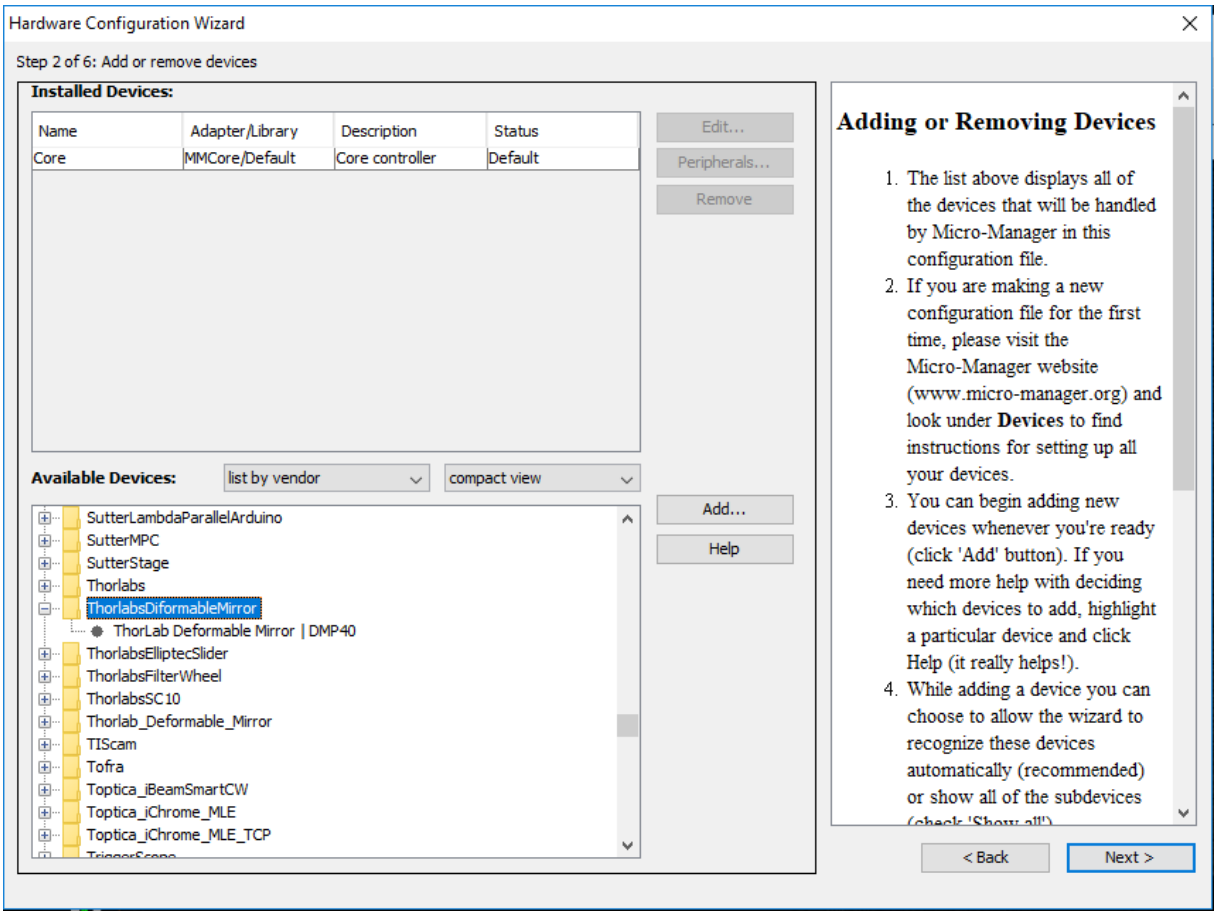
Thorlabs Deformable Mirror DMP40 Device Adapter

A brief user guide for Thorlabs deformable(DMP40) device adapter for Micro-Manager. This device adapter allows you to control the deformable mirror using device property browser through the tools tab.

Requirements

First of all you need to download Micro-Manager (https://micro-manager.org/wiki/Download%20Micro-Manager_Latest%20Release), and install it. we highly recommend download the nightly builds version. After installation, depend on the version of Micro-Manager, copy "mmgr_dal_Thorlab_Deformable_Mirror.dll" file to the Micro-Manager installation location file (C:\Program Files\Micro-Manager-1.4).

Follow instruction on: "https://micro-manager.org/wiki/Micro-Manager_Configuration_Guide" to configure your deformable mirror in Micro-Manager. You can add your mirror under ThorlabsDeformableMirror.



Usage

Thorlabs deformable mirror has properties that you can see on the image below.

1. Tip & Tilt: this property can change the 3 arm segments of mirror with amplitude and angle to modify the mirror tilt.

2. ApplyZernikes: this property only added for communication with REALM plugin.

3. Load Wavefront Correction: you can load segments voltage which you saved before for any purposes, for instance: flatness, tetrapod, saddle point and ….

4. Temperature: this property shows the mirror temperature.

5. Relax the Mirror: this property allows you to use relaxation feature offered by Thorlabs deformable mirror. Relax is a function that removes mechanical tensions in the mirror. For more information please read the Thorlabs deformable mirror manual.

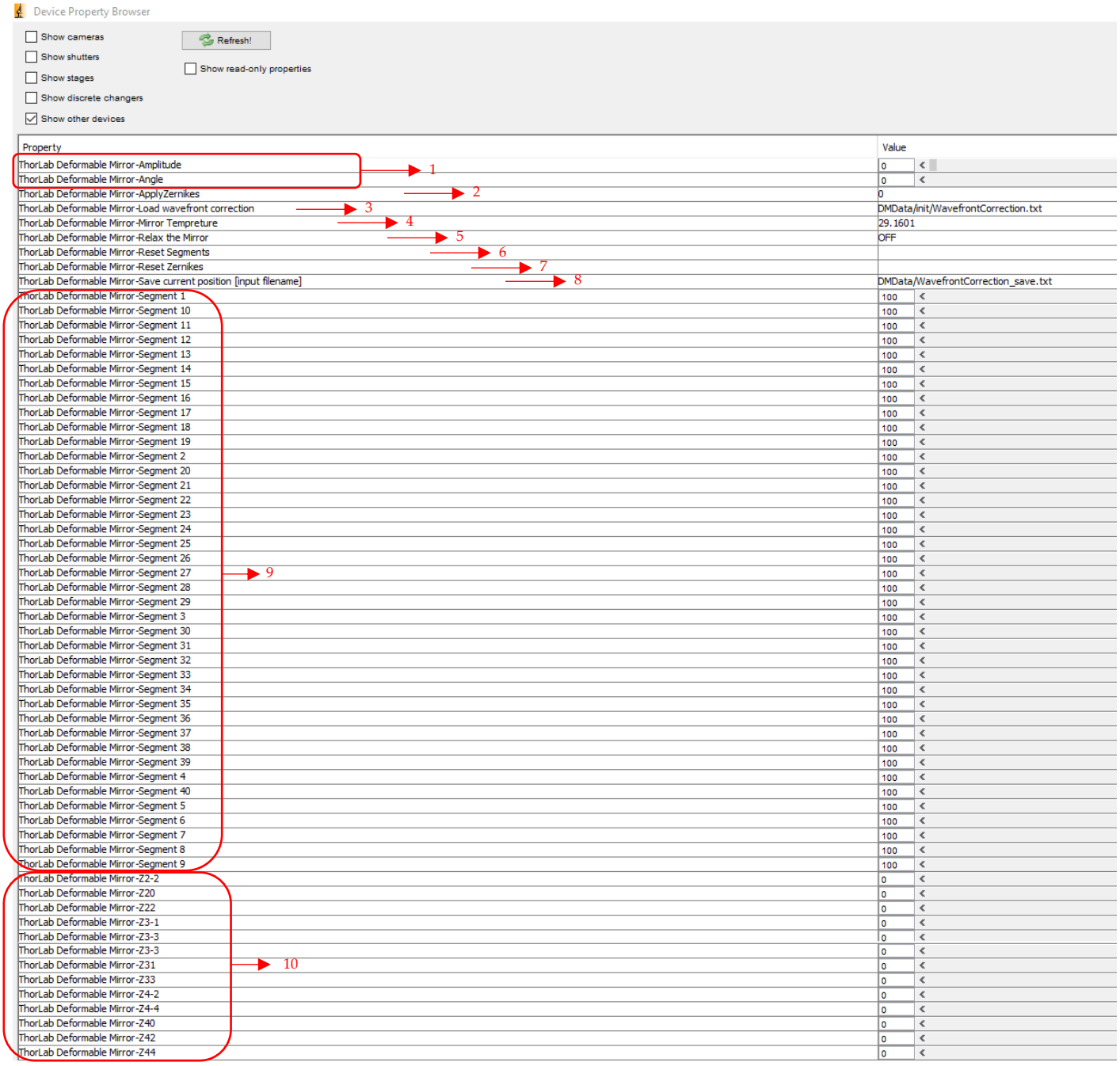
6. Reset Segments: this property returns all 40 segments to 100V.

7. Reset Zernike: this property returns all Zernike coefficients to 0 and all 40 segments to 100V.

8. Save current position: this property save all segments voltages that you can use it later.

9. Mirror segments: these properties changes each segment voltage from 0V to 200V.

10. Zernike Coefficients: these properties changes each Zernike that you want. Moreover with this device adapter, it is designed so that if you change Zernike coefficients all segments will change depend on the each Zernike pattern.


Device Property Browser
Show cameras
Show shutters
Show stages
Show discrete changers
Show other devices
Refresh!
Show read-only properties
Property
Value
ThorLab Deformable Mirror-Amplitude
ThorLab Deformable Mirror-Angle
ThorLab Deformable Mirror-ApplyZernikes
ThorLab Deformable Mirror-Load wavefront correction
ThorLab Deformable Mirror-Mirror Tempreture
ThorLab Deformable Mirror-Relax the Mirror
ThorLab Deformable Mirror-Reset Segments
ThorLab Deformable Mirror-Reset Zernikes
ThorLab Deformable Mirror-Save current position [input filename]
ThorLab Deformable Mirror-Segment 1
ThorLab Deformable Mirror-Segment 10
ThorLab Deformable Mirror-Segment 11
ThorLab Deformable Mirror-Segment 12
ThorLab Deformable Mirror-Segment 13
ThorLab Deformable Mirror-Segment 14
ThorLab Deformable Mirror-Segment 15
ThorLab Deformable Mirror-Segment 16
ThorLab Deformable Mirror-Segment 17
ThorLab Deformable Mirror-Segment 18
ThorLab Deformable Mirror-Segment 19
ThorLab Deformable Mirror-Segment 2
ThorLab Deformable Mirror-Segment 20
ThorLab Deformable Mirror-Segment 21
ThorLab Deformable Mirror-Segment 22
ThorLab Deformable Mirror-Segment 23
ThorLab Deformable Mirror-Segment 24
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ThorLab Deformable Mirror-Segment 30
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ThorLab Deformable Mirror-Segment 35
ThorLab Deformable Mirror-Segment 36
ThorLab Deformable Mirror-Segment 37
ThorLab Deformable Mirror-Segment 38
ThorLab Deformable Mirror-Segment 39
ThorLab Deformable Mirror-Segment 4
ThorLab Deformable Mirror-Segment 40
ThorLab Deformable Mirror-Segment 5
ThorLab Deformable Mirror-Segment 6
ThorLab Deformable Mirror-Segment 7
ThorLab Deformable Mirror-Segment 8
ThorLab Deformable Mirror-Segment 9
ThorLab Deformable Mirror-Z2-2
ThorLab Deformable Mirror-Z20
ThorLab Deformable Mirror-Z22
ThorLab Deformable Mirror-Z3-1
ThorLab Deformable Mirror-Z3-3
ThorLab Deformable Mirror-Z3-3
ThorLab Deformable Mirror-Z31
ThorLab Deformable Mirror-Z33
ThorLab Deformable Mirror-Z4-2
ThorLab Deformable Mirror-Z4-4
ThorLab Deformable Mirror-Z40
ThorLab Deformable Mirror-Z42
ThorLab Deformable Mirror-Z44
0
0
0
DMData/init/WavefrontCorrection.txt
29.1601
OFF
DMData/WavefrontCorrection_save.txt
100
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