

Software Update ImSpector for UM II

New software features for UM II

1. Revised algorithm for dynamic focus processing
2. Dynamic focus raw data processing via Image Series Viewer
3. Imaris export via Image Series Viewer

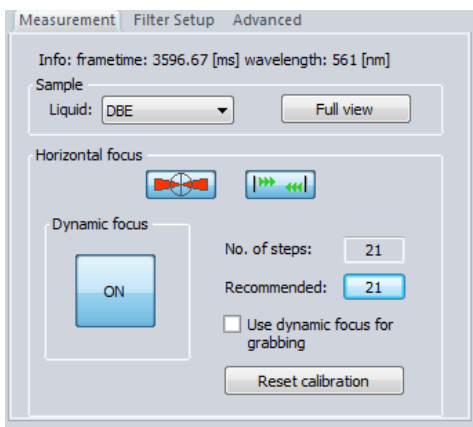
1. Revised algorithm for dynamic focus processing

In order to obtain optimal results with the new blend algorithm it is now possible to use a calibration routine just before Z stack data acquisition. The calibration can account for deviations of the theoretical horizontal focus positions and therefore improves the effective optical sectioning. This routine generates a smaller stack of 9 to 16 Z planes along the original stack range. After the software has successfully calibrated the blending parameter the image acquisition can be started. The new contrast adaptive algorithm is adjusting the processing parameters while the stack acquisition is running. The contrast information is added up to find the perfect fit. Once it is identified these parameters are locked for the rest of the stack.

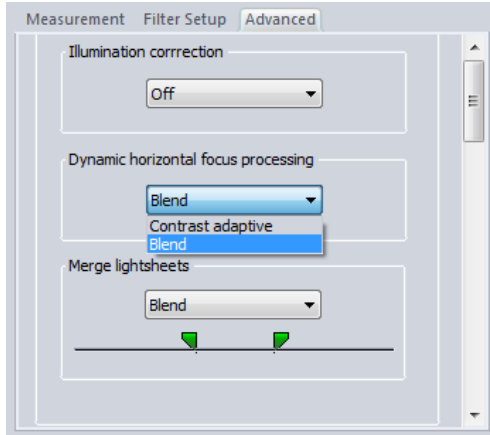
The contrast adaptive algorithm is faster because of the omitted calibration step while the blend algorithm is directly starting with the correct blending parameters.

How to use the new algorithms – “Blend”

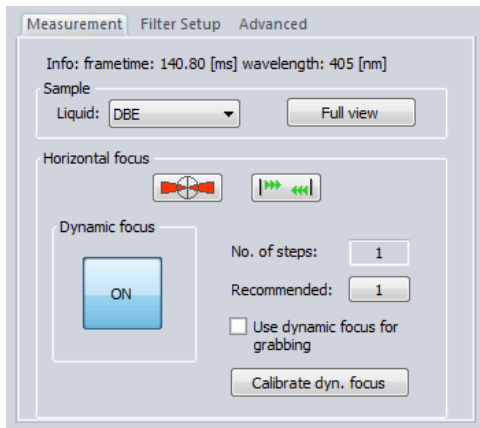
- Activate “Dynamic focus” and set the range for dynamic focus



- Select “Advanced” tab within the “Ultra” dialogue
- Select “Blend” for “Dynamic horizontal focus processing”



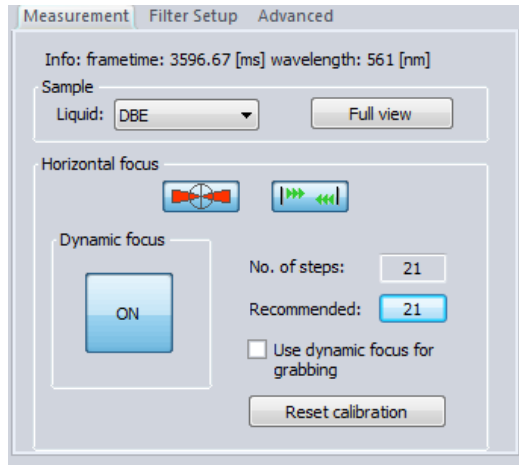
- Set your imaging parameters including start position, end position and step size
- Click on “Recommended” for numbers of images per Z plane
- Click on “Calibrate dyn. Focus”



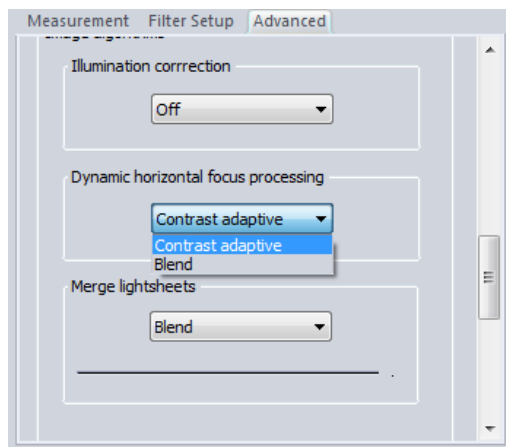
- Start data acquisition after calibration is done by clicking on “Start”.

How to use the new algorithms – “Contrast adaptive”

- Activate “Dynamic focus” and set the range for dynamic focus

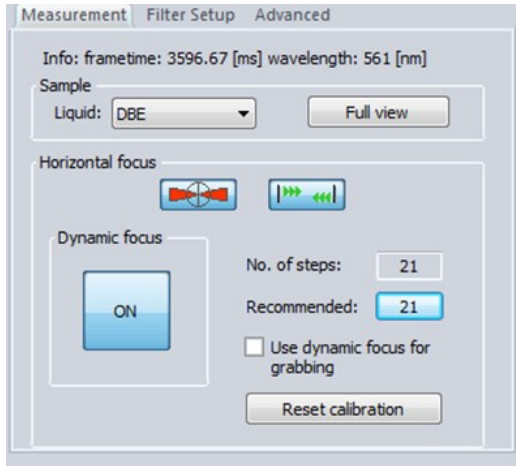


- Select “Advanced” tab within the “Ultra” dialogue
- Select “Contrast adaptive” for “Dynamic horizontal focus processing”



- Set your imaging parameters including start position, end position and step size

- Click on “Recommended” for numbers of images per Z plane



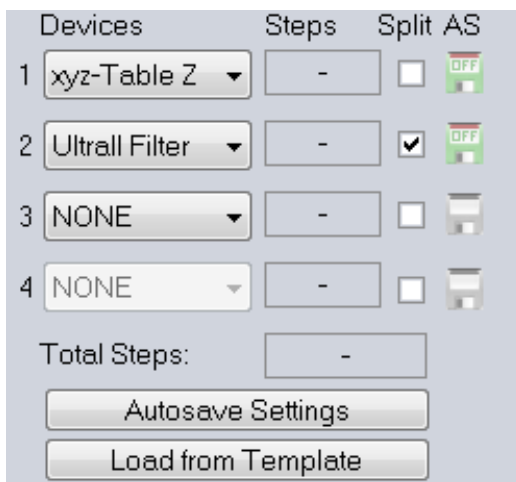
- Start data acquisition by clicking on “Start”.

2. Dynamic focus raw data processing via Image Series Viewer

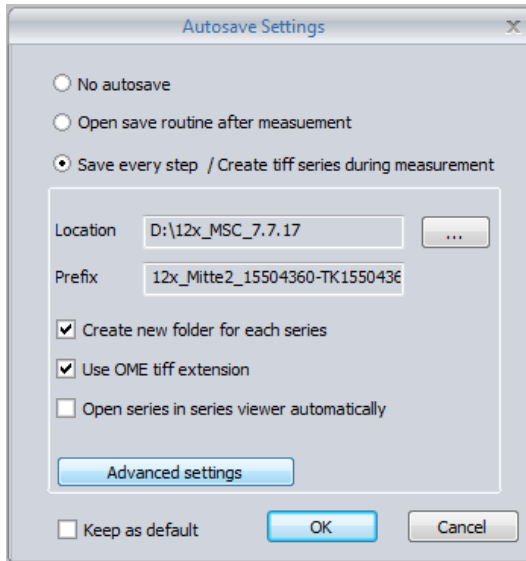
Using the dynamic focus processing of raw data via Image Series viewer requires a workstation with enough memory. This mode of operation enlarges the total amount of data by factor of X with X as number of images per Z plane. The raw data of each Z plane are saved and processed after data acquisition using the contrast algorithm.

How to use dynamic raw data processing via Image Series Viewer

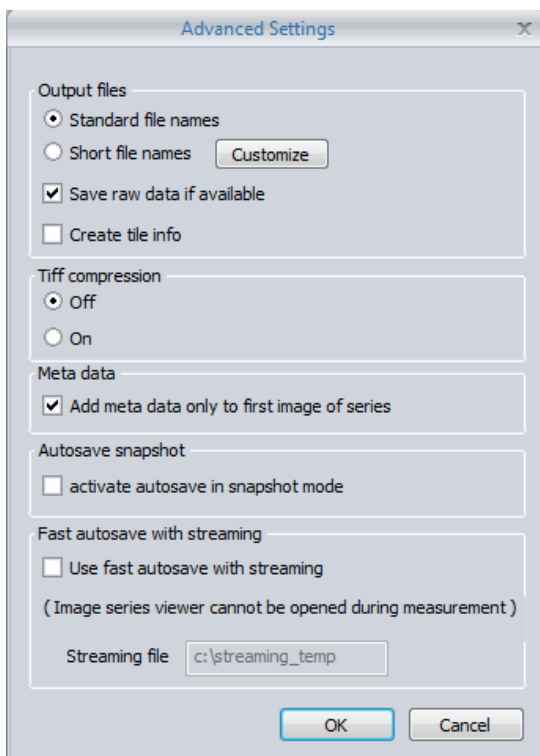
- Click on “Autosave Settings”



- Click in “Autosave Settings” on “Advanced settings”

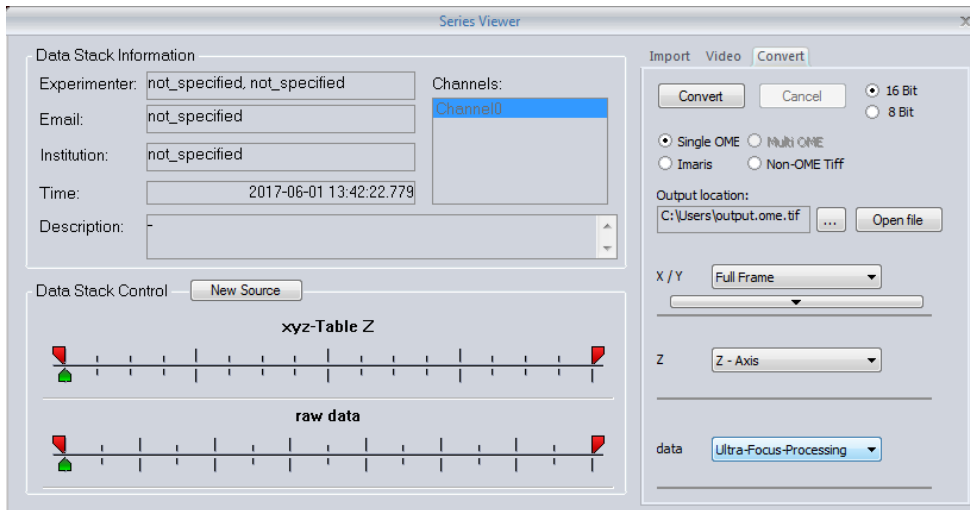


- Activate in “Advanced Settings” the option “Save raw data if available”



- Confirm with clicking “OK”

- Set your imaging parameters including start position, end position and step size
- Click on “Recommended” for numbers of images per Z plane
- Start data acquisition after calibration is done by clicking on “Start”.
- Open acquired data via the Image Series Viewer
- Select the “Convert” tab
- For data select “Ultra-Focus-Processing”
- Select an output file directory under “Output location”
- Click on “Convert”



3. Imaris export via Image Series Viewer

Using the *Image Series Viewer*, it is now possible to export measurements directly to the Imaris-file format IMS.

How to use dynamic raw data processing via Image Series Viewer

- Open your UltraMicroscope TIFF.OME data via the Image Series Viewer
- Select the “Convert” tab.
- Click on “Imaris”
- Select an output file directory under “Output location”
- Click on “Convert”