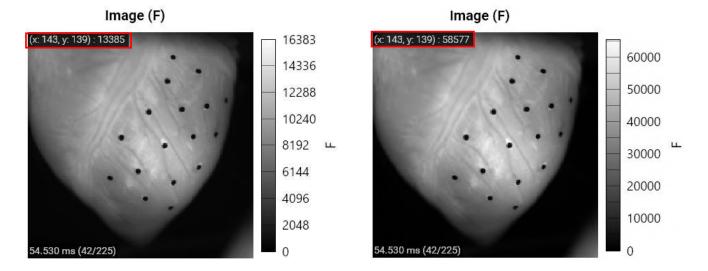## 8-5-6. Dynamic range optimization

A dark image may be captured depending on staining condition of sample, problems with optical system, or sampling rate conditions. In this case, only a part of the 16-bit gradation is used. With Dynamic range optimization, brightness value of each pixel is optimized to use entire 16-bit gradation, and dark image is corrected to be bright.

It is executed by clicking [Filters (temporal)]-[Dynamic range optimization].

The algorithm is as follows.

1. Detect the minimum and maximum values of all pixels in all frames.
2. Calculate gain and offset so that the minimum value of 1 is 0 and the maximum value is 65535.
3. Apply gain of 2 and offset to all frames and all pixels.