Super Resolution Localization Data To Spots

This XTension is provided as an addition to the XTSuperResolutionLocalizationDataToImage XTension. It also reads localization data files produced by super-resolution microscopy, but generates Imaris Spots components instead of an Image from the particle tables. The created spot locations correspond to the location of the particles. The particle radii are estimated from the particle intensities and user-entered parameters.

To perform this XTension:

a) Specify the directory of the super-resolution file you want to process and select the file from the chosen location

b) Enter the microscope parameters in the input dialog

Parameters:

These parameters are used for an estimation of the size of each super-resolution spot.

1. The full-width-half-maximum of the microscope point-spread-function (nm)

The created spot diameter is directly proportional to the entered value. The default value is 0.1 nm.

2. The gain factor of the camera to convert particle intensities into photons

The default value is 1.

The diameter of the created spots is calculated according to the following formula::



R - The diameter of the created spots

S - The full-width-half-maximum of the microscope point-spread-function (nm)

I - Intensity

G - The gain factor of the camera to convert particle intensities into photons

The XTension will create a surpass group containing Spots components. Every spots component contains up to 2 Million spots. The number of created spots components is dependent on the total number of particles stored in the file. A scene is created if Imaris does not yet contain a scene.