

WinCamD 2D Image File Import into MATLAB

Applies to: Import of 2D TIFF image files into MATLAB (www.mathworks.com).

By default, DataRay renders WinCamD files as false color images. [There is also a monochrome option under **Palettes**.] For the purposes of this example we use **sample.wcf**, the Gaussian output from a single-mode fiber found in **c:\Program files\DataRay**.

To import the background subtracted image data into MATLAB, go **Stop**, **File**, **Save**, then in the **WinCamD File Save Dialog** select **Save current data as 8-bit TIFF**, or **Save current data as 16 bit TIFF**.

[The 16-bit matrix has a greater value range than the 8-bit matrix and is more appropriate in most applications.]

The Matlab command for importing the **.tiff** files is:

```
A=imread('sample.tiff','tiff');
```

This command will import both the 8-bit and 16-bit files correctly into the matrix **A**.

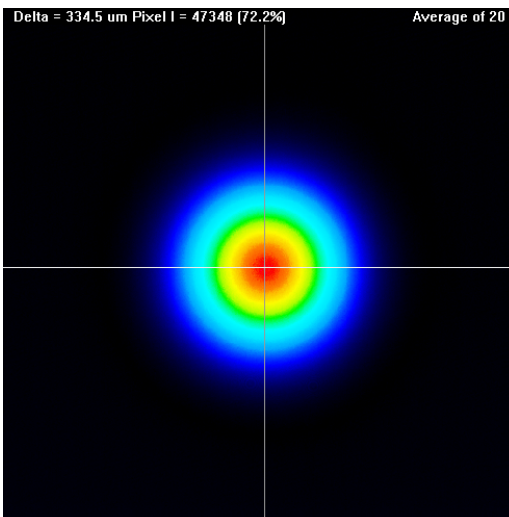
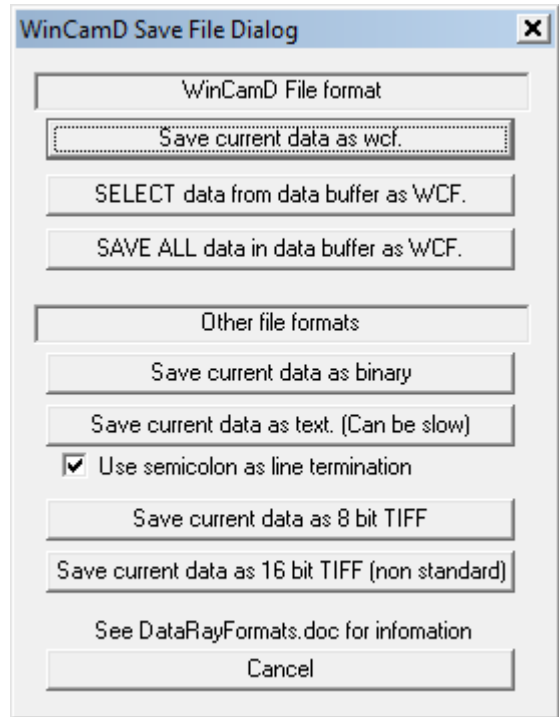
However, remember that some built-in MATLAB functions, which you may want to use for your analysis, only work with double-precision floating-point values. However, the ***.tiff** files are imported as unsigned 8- or 16-bit integer values, as they should be. To fix this, simply run:

```
A=double(A);
```

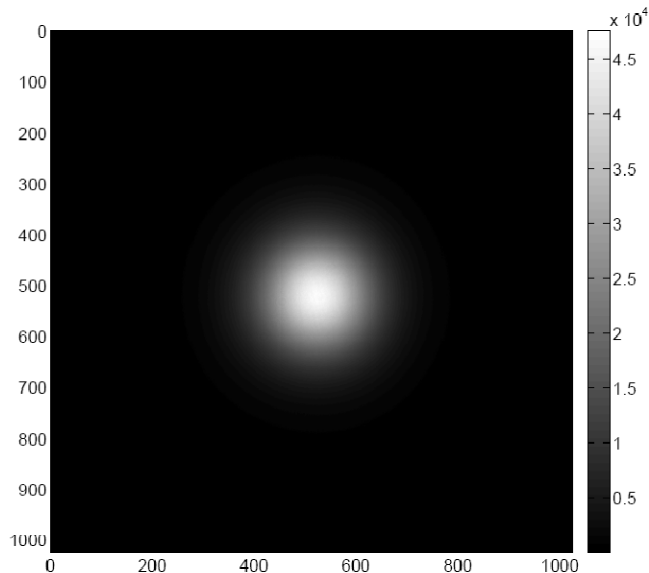
Note that this command is not required, but it will fix a problem that you might quickly encounter.

A simple plot of the matrix using the code below is illustrated on the next page for the imported 16-bit **sample.tiff**:

```
figure;  
imagesc(A,[min(A(:)) max(A(:))]);  
colormap(gray);  
colorbar;  
axis equal;
```



DataRay software false color image



16-bit TIFF displayed in MatLab