***Skyrmions Spin Textures – Notes on the scaling of the Figures***

The figures have been scaled by choosing 1 pixel (along horizontal direction) equal to the Δx values and 1 pixel (along vertical direction) equal to the Δy reported below.

**Figs.1 (a-l) - Experiments**

Δx = 0.325381 μm

Start = -507 μm (to put the zero at the centre of the Fig)

Δy = 2.33871 μm

Start = - 335 μm (to put the zero at the centre of the Fig)

**Fig.1 (m-n) and FigS4(a-c) - Simulations**

Δx = Δy = 0.416666666666667 μm

Start = -220 μm (for both x and y axis)

**FIG.3(a-c) – EXPERIMENT \_ PROFILES**

Δx = 0.328 ps/pixel (For all profiles in Fig.3)

Start (Fig.3a)= -33.784

Start (Fig.3b)= -55.104

Start (Fig.3c)= -46.904

**Fig.S3(a-b) – Experiment**

Δx = Δy = 0.325488232348523 μm

Start\_ Δx = -238 (to put the zero at the centre of the Fig)

Start\_ Δy = -240 (to put the zero at the centre of the Fig)

**NOTES on the INTERPOLATION (with IGOR PRO by WaveMetrics)**

Please note that when you perform the interpolation of an image, the number of pixels of the original image (i.e., the data that are not interpolated) increases by a factor, which corresponds to the sampling factor of the interpolation. Therefore, the interpolated images have a different number of pixels compared to the not-interpolated ones (in fact, what the interpolation does is to increase the densities of pixels so that the images are not “pixelated”), however the bilinear interpolation does not modify the Stokes values of the image, which are the ones that have been measured experimentally.

**Technical notes**

**Command used:** ImageInterpolate /DEST=LL5\_interp /F={4,4} Bilinear

**BILINEAR:** Performs a bilinear interpolation subject to the specified flag. You can use either the /F or /S flag, but not both.

How does it interpolate? --> /F flag:

**/F={fx,fy}** Bilinear interpolation of all the source data. Here fx is the sampling factor for the X-direction and fy is the sampling factor in the Y-direction. The output number of points in a dimension is factor\*(number of data intervals) +1. The number of data intervals is one less than the number of points in that dimension.

For example, if srcWave is a 2x2 matrix (you have a single data interval in each direction) and you use /F={2,2}, then the output wave is a 3x3 matrix (i.e., 2x2 intervals) which is a factor of 2 of the input. Sampling factors can be noninteger values.

For example, in the case of Figs. 1:

* Factor is 4 (i.e. F={4,4})
* N of intervals along x is 639
* factor\*(number of data intervals) +1 = 4\*639+1 =2557 (along x)
* factor\*(number of data intervals) +1= 4\*68+1=273 (along y)