

## **Spin waves in the B-phase of superfluid Helium-3**

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The experiments of the superfluid B-phase of Helium-3 in a cylindrical container of 1 mm in diameter are presented. Characteristic for this dimension is that the preferred orientation of the order parameter of the B-phase will be locally varying, resulting in a curved configuration into the cell. Exclusive in our case, as it is performed at low pressures and low magnetic fields, we could make a texture (a certain configuration in which the preferred orientation of the superfluid is bent over the sample), which was meta-stable and unchanged for the whole pressure and temperature ranges. As this texture can be considered as a potential to sustain spin waves, we had the unique opportunity to study them for several pressures in nearly the same texture. A positive effect is that this potential (texture) is close to a quadratic one, creating essentially a two dimensional system, in which the intensities of all spin wave modes should be equal. This provides us the perfect condition to observe the increase of the number of spin wave modes by increasing the pressure.

Finally we were able to make a textural transition to the in advance expected texture, from which we conclude that the meta-stable texture could be realized if the growing speed is sufficiently slow.