# WHICH MODEL FOR SUPERFLUID HELIUM?

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The aim of the talk is to show a depeer comparison between the two main existing models of superfluid helium: the two-fluid model, proposed by Landau in 1941 [1, 2], and the one-fluid extended model [3, 4], proposed by using Extended Thermodynamics.

In particular, we perform some numerical experiments of these models for a direct comparison with the experiments by Guo's group [5, 6] in heat transport in superfluid helium. The numerical experiments will regard the profiles of the so-called normal and superfluid components in 2D counterflow turbulence for the two-fluid model, and the heat flux and the main velocity for the one-fluid extended model.

We also discuss on a possible interpretation of quantized vortices in the one-fluid model.

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