

## Energy Budget Equation of Superfluid HVBK Model: LES Simulation

**Authors :** M. Bakhtaoui, L. Merahi

**Abstract :** The reliability of the filtered HVBK model is now investigated via some large eddy simulations of freely decaying isotropic superfluid turbulence. For homogeneous turbulence at very high Reynolds numbers, comparison of the terms in the spectral kinetic energy budget equation indicates, in the energy-containing range, that the production and energy transfer effects become significant except for dissipation. In the inertial range, where the two fluids are perfectly locked, the mutual friction maybe neglected with respect to other terms. Also the LES results for the other terms of the energy balance are presented.

**Keywords :** superfluid turbulence, HVBK, energy budget, Large Eddy Simulation

**Conference Title :** ICMSCMP 2014 : International Conference on Material Science and Condensed Matter Physics

**Conference Location :** London, United Kingdom

**Conference Dates :** December 22-23, 2014