

## **Fidelity at Berezinskii-Kosterlitz-Thouless transitions**

O. K. Kolezhuk

*Taras Shevchenko National University of Kyiv, Institute of High Technologies, 4-G Glushkova av., 03022 Kyiv, Ukraine*

*E-mail: kolezhuk@knu.ua*

This work aims to clarify a long-standing controversy concerning the behavior of the ground state fidelity in the vicinity of a quantum phase transition of the Berezinskii-Kosterlitz-Thouless type in one-dimensional systems. Contrary to the prediction based on the Gaussian approximation of the Luttinger liquid approach, it is shown that the fidelity susceptibility does not diverge at the transition, and numerical claims of its logarithmic divergence with the system size (or temperature) are explained by logarithmic corrections due to marginal operators.