Contribution ID: **107**   Type: **Oral**

SIMULATION OF CURRENT-VOLTAGE CHARACTERISTICS OF LARGE-AREA JOSEPHSON JUNCTIONS AND SPACE-TIME DYNAMICS FOR VARIOUS VORTEX-FLOW MODES

High-frequency applications of Josephson contacts require single-valued current-voltage characteristics which are usually achieved by using an external low-resistance normal-metal shunt in parallel with each junction. In this contribution, we propose a new approach for realizing internal shunting in Josephson heterostructures where a barrier itself contains the desired resistive component. We also study the space-time vortex-flow dynamics in elongated Josephson junctions by solving the related sine-Gordon equation with a Baecklund transformation.

Primary author: Dr TKACHENKO, Vera (Vasyl' Stus Donetsk National University)

Co-authors: BELOGOLOVSKII, Mikhail (G.V. Kurdyumov Institute for Metal Physics, National Academy of Sciences of Ukraine);   Dr BARYBIN, Oleksii (Vasyl' Stus Donetsk National University)

Presenter: Dr TKACHENKO, Vera (Vasyl' Stus Donetsk National University)