Supplemental Material to the article
"Peculiarities of the Dynamics of Coupled Josephson Junctions System with Topological Trivial and Nontrivial Barriers: Manifestation of Majorana Mode"

The experimental samples are not ideal and there are fluctuations of physical parameters during the realization of physical experiments. In order to demonstrate the stability of the obtained results to such fluctuations, we have investigated the influence critical current fluctuations along the Josephson junctions stack. The results of comparison of β-dependence of the breakpoint voltage V_{BP} for the stack with $\varepsilon = 0$ taking into account fluctuations of critical current $\delta I_c \leq 0.01\, I_c$ and without fluctuations are shown in Fig. 1. In this case we observe a deformation of the β-dependence and we found that the position of minimum along the β axis corresponds to the value $\beta = 0.46$. Consequently, we can conclude that the obtained results are stable to the fluctuations of JJ stack parameters.

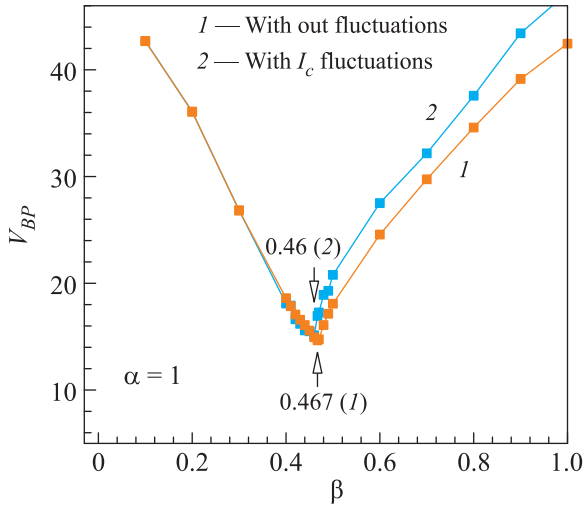

Figure 1: The β-dependence of V_{BP} for the stack with $N = 10$ JJ with nontrivial barriers for the stack with the same I_c in all JJs and with I_c fluctuations of order ± 0.01 in different JJ

The animation of waves are presented in the files "fig5a.avi", "fig5b.avi", "fig5c.avi" of supplement material. Those waves are shown in Fig. 5a–c in the main text of the paper.