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Winding number with arbitrary integer value in Cubic String Field Theory

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We examined in the previous paper whether winding number could be defined in CSFT. We have found that the quantity $N = \int (UQU - 1)^3$ has many desirable properties as topological quantity. However, N could not realize an arbitrary integer value, since it is not possible to suppress the anomaly. This time, by generalizing the KBC-type solution, we were able to obtain N with arbitrary integer value while maintaining the topological properties. These classical solutions are different from related study arXiv:1901.01681 [hep-th] in that it holds equivalence of $K=0$ and $K=\infty$, where K is a kind of Hamiltonian of world sheet, and the solution is constructed by finite term.

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