$\label{eq:Logiacl} \mbox{Logiacl T for The Toric Code Has to Have Non Trivial Depth.}$

Michael Ben-Or David Ponarovsky

February 27, 2025

Abstract

In this work we study the depth of logical T gate of the CSS quantum error correction codes. In particular we shown that for the Toric code the depth of logical T can not be trivial.