Quantum Code Zoo

ZWL*

(Dated: January 6, 2021 **quantum-code-zoo**)

A zoo of quantum code

CONTENTS

I.   INTRODUCTION

II.   QUANTUM CODE ZOO

easy list of quantum code

Whatever code you find, let's find a place for it in this list

– fermion codes
– bosonic codes
  • GKP codes
  • cat codes
– CWS
  • Stabilizer codes
    ○ CSS codes
      ■ QHP codes
        – toric codes
        – HQHP codes
          – toric codes in higher-Dimension
      ■ Quantum bicycle codes
      ■ Homological product codes
      ■ Lifted product codes
      ■ Fiber bundle codes
      ■ Quantum pin codes
      ■
    ○ non-CSS codes
      ■ rotated surface codes
      ■ Quantum XYZ product codes
  • Subsystem codes
    ○ Subsystem product codes
      ■ Subsystem hypergraph product codes
        – Bacon Shor codes
  • Concatenated codes
    ○ Shor's codes
  unclassified
– quantum hyperbicycle codes[1]

III.   GLOSSARY AND REFERENCES

IV.   SIMILAR PROJECTS

Quantum Algorithm Zoo `https://quantumalgorithmzoo.org/`

Quantum protocol Zoo `https://wiki.veriqloud.fr/index.php?title=Protocol_Library`

[1] A. Kovalev and L. Pryadko, Quantum hyperbicycle low density parity check codes with finite rate, arXiv **1212**.

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