

# $\text{QNC}_1 \subset \text{noisy-BQP}$

Michael Benor   David Ponnarovsky

September 15, 2024

## 1 The Noise Model

## 2 Fault Tolerance (With Resets gates) at Linear Depth.

**Claim 2.1.** *There is  $p_{th} \in (0, 1)$  such that if  $p < p_{th}$  then any quantum circuit  $C$  with depth  $D$  and width  $W$  can be computed by  $p$ -noisy, resets allowed, circuit  $C'$ , with a depth at most  $\max\{D, \log(WD)\}$ .*

### 2.1 Initializing Magic for Teleportation gates and encodes ancillaries.

1. Initializing Magic for Teleportation gates and encodes ancillaries.
2. Each gate is replaced by gate teleportation.
- 3.