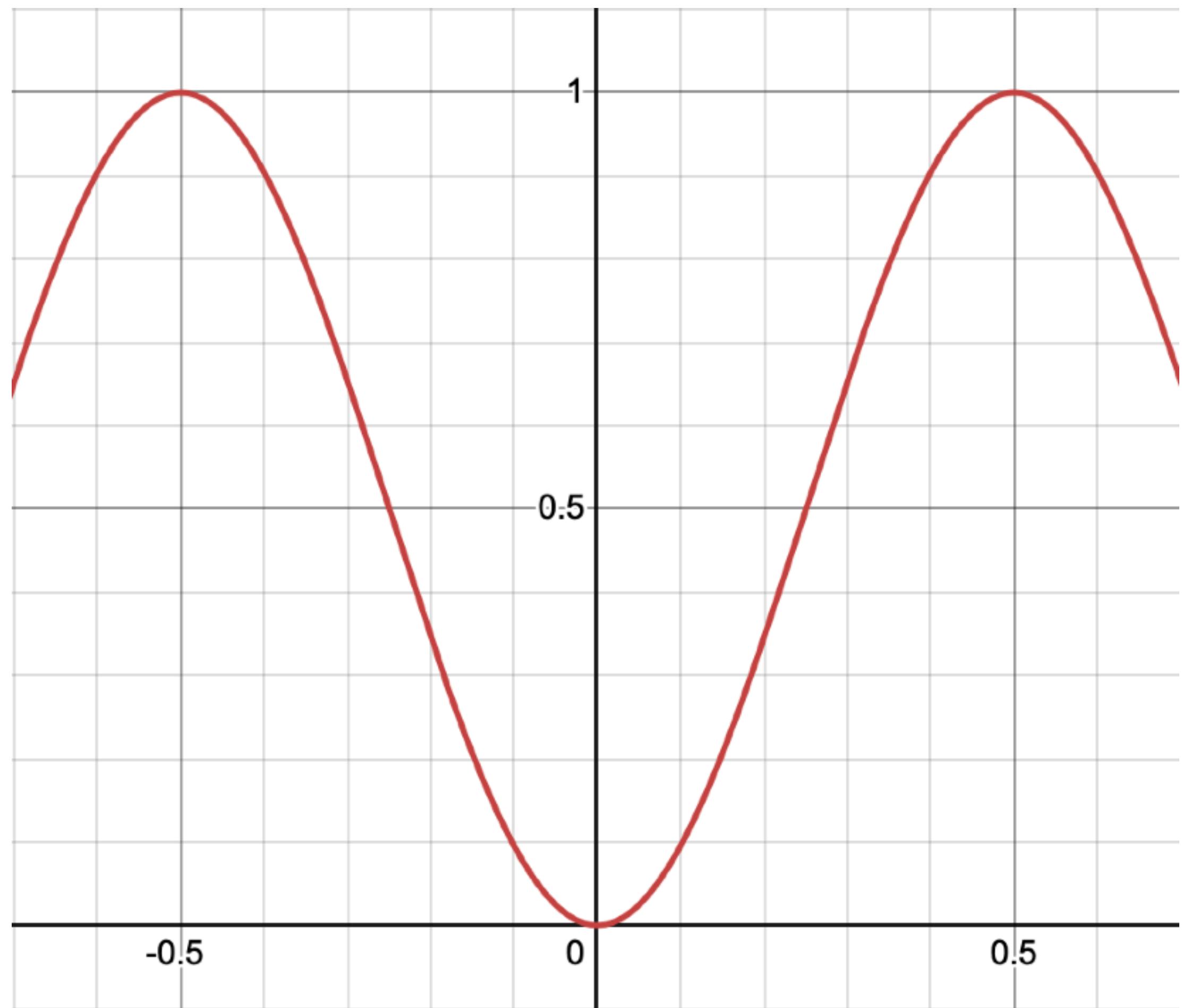


# Cleaning error in CKKS

Bootstrapping Bits with CKKS [BCKS24]

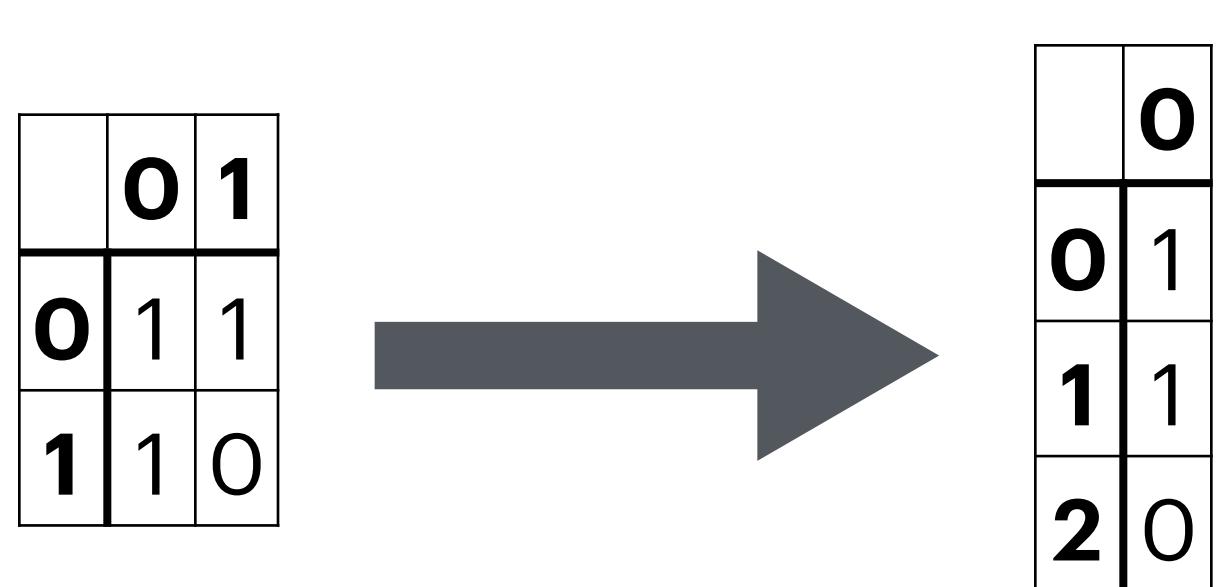
- $f_{BinBoot}(x) = \frac{1}{2}(1 - \cos(2\pi x))$
- Cleaning par interpolation trigonométrique
  - Séries de Taylor
  - Polynômes de Chebyshev
- Plus efficace que  $h_1$  de BLEACH



# Cleaning error in CKKS

## Bootstrapping Bits with CKKS [BCKS24]

- Porte logique symétrique  $G$  (ex  $NAND$ )
- Vu comme évaluation unaire de  $b_1 + b_2 \in \{0,1,2\}$



$$\cdot f_{GateBoot}(x) = \frac{2}{3} \left( 1 + \sin \left( 2\pi x + \frac{\pi}{6} \right) \right)$$

