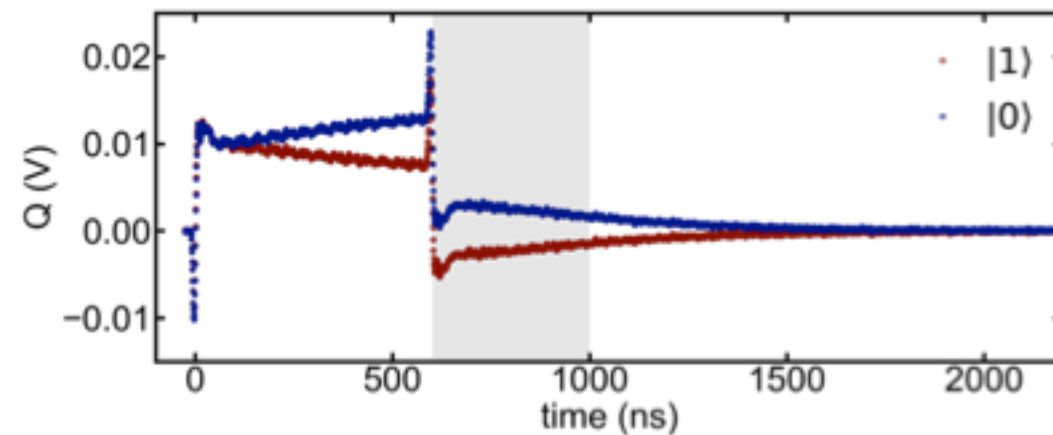
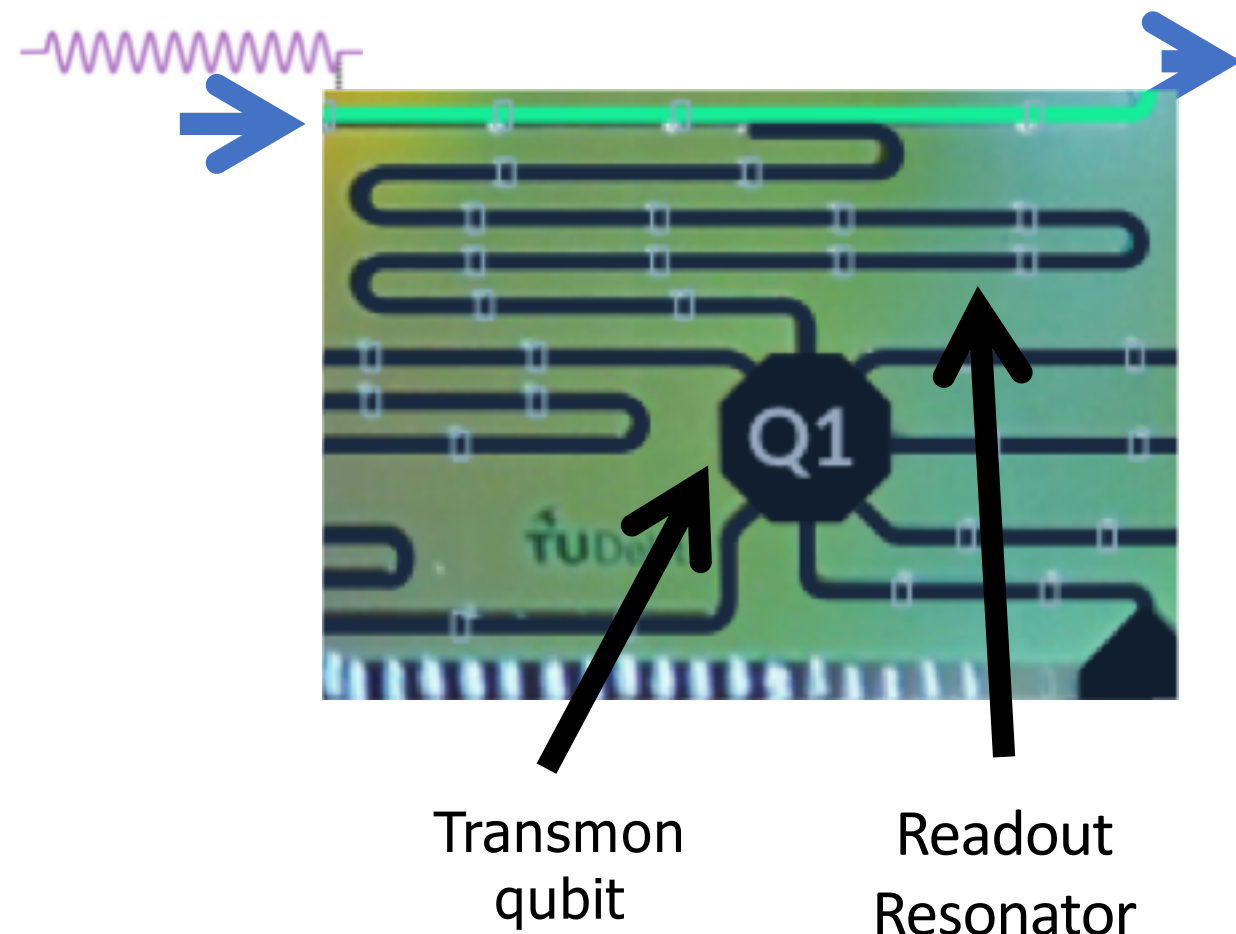


Niels Bultink

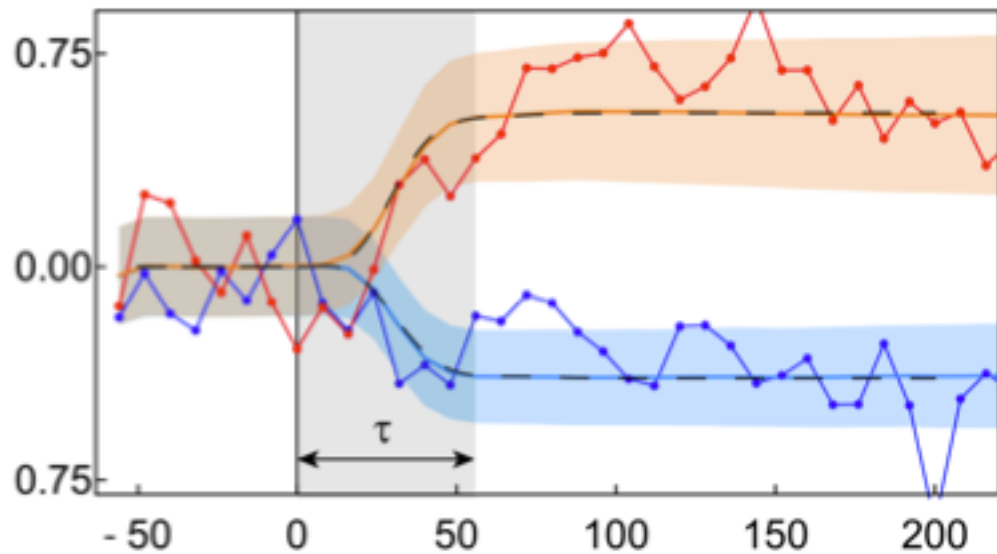
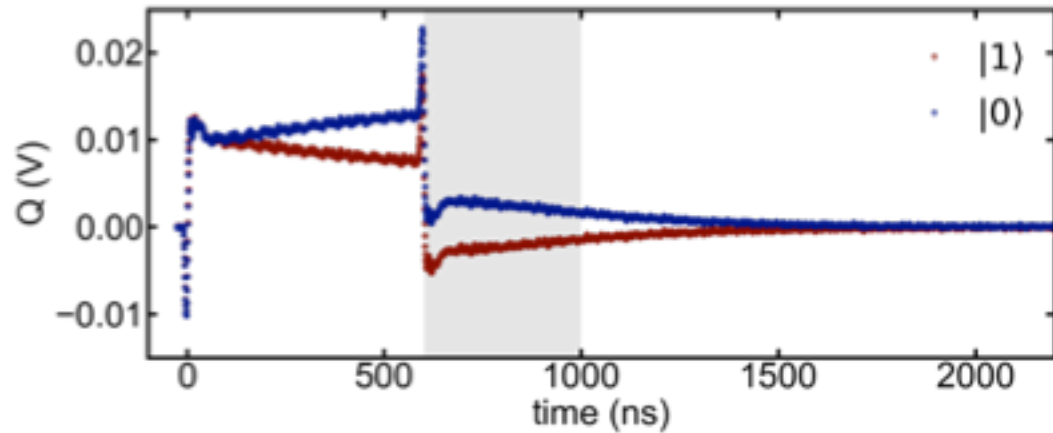
*Operations in superconducting  
qubits:*

*Measurements*

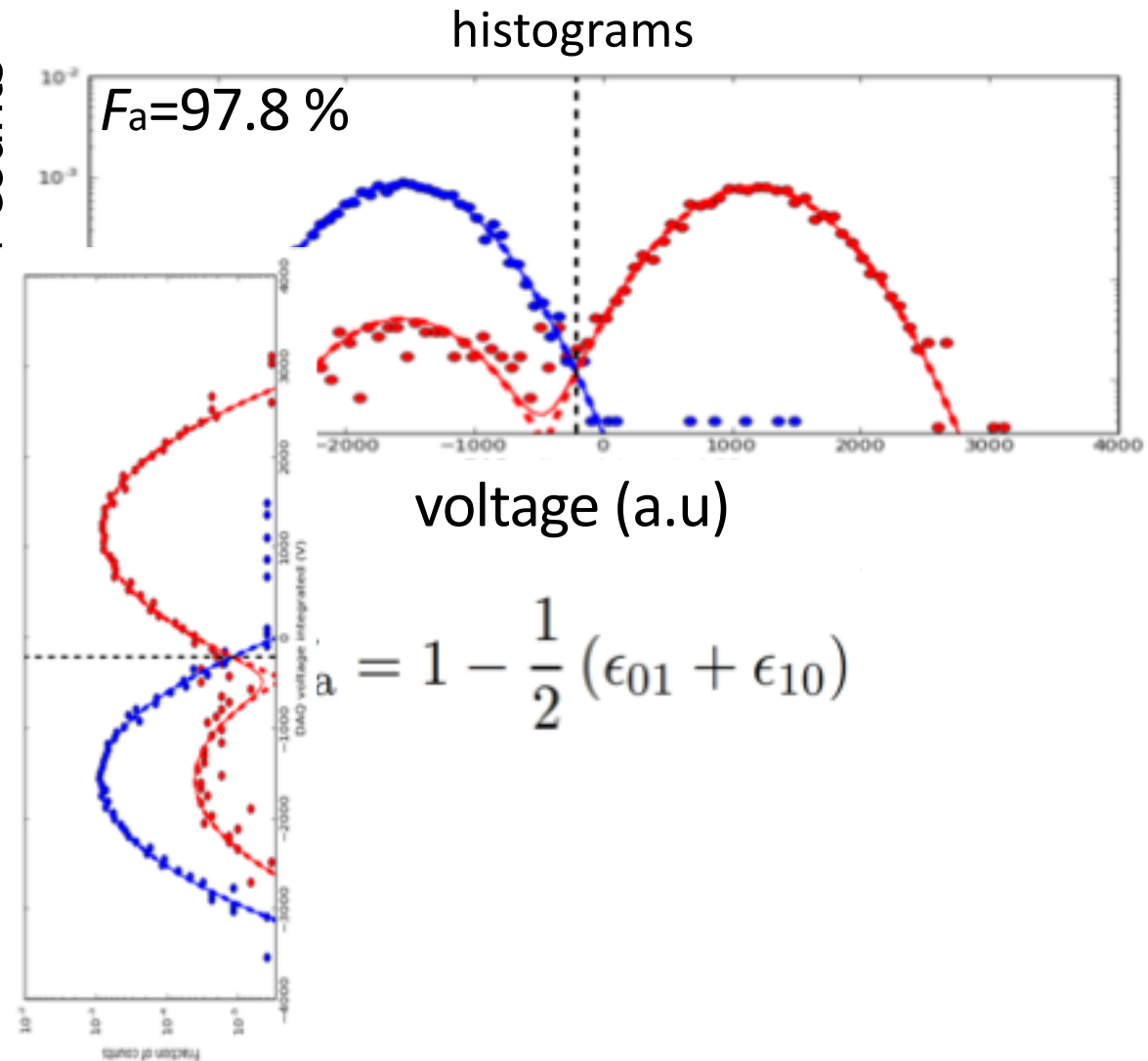
# Single-qubit readout



# Single-qubit readout

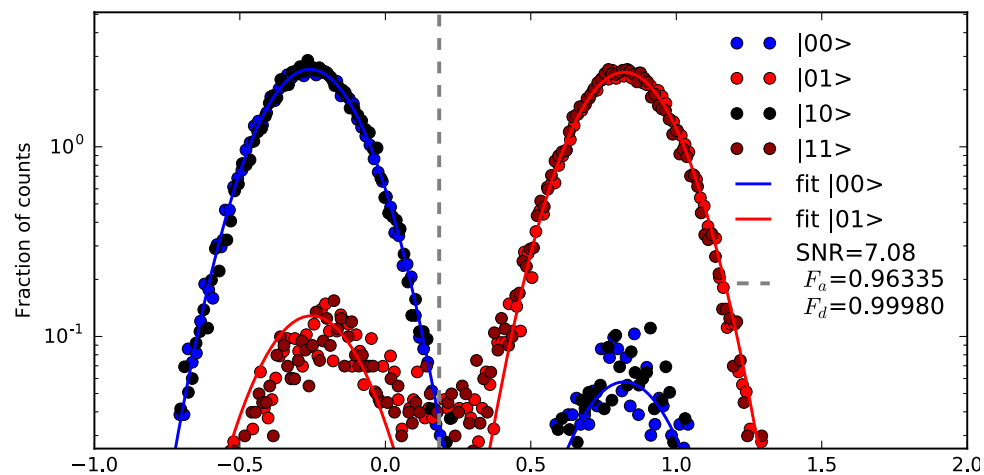


Fraction of counts

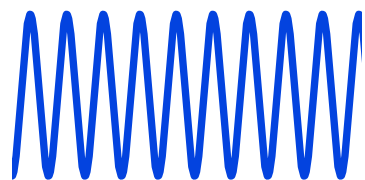


- [1]: D. Ristè *et al.*, PRL 109, 050507 (2012)  
 [2]: T. Walter *et al.*, PR Appl. 7, 054020 (2017)

# Multi-qubit readout



Qubit 1 result



+

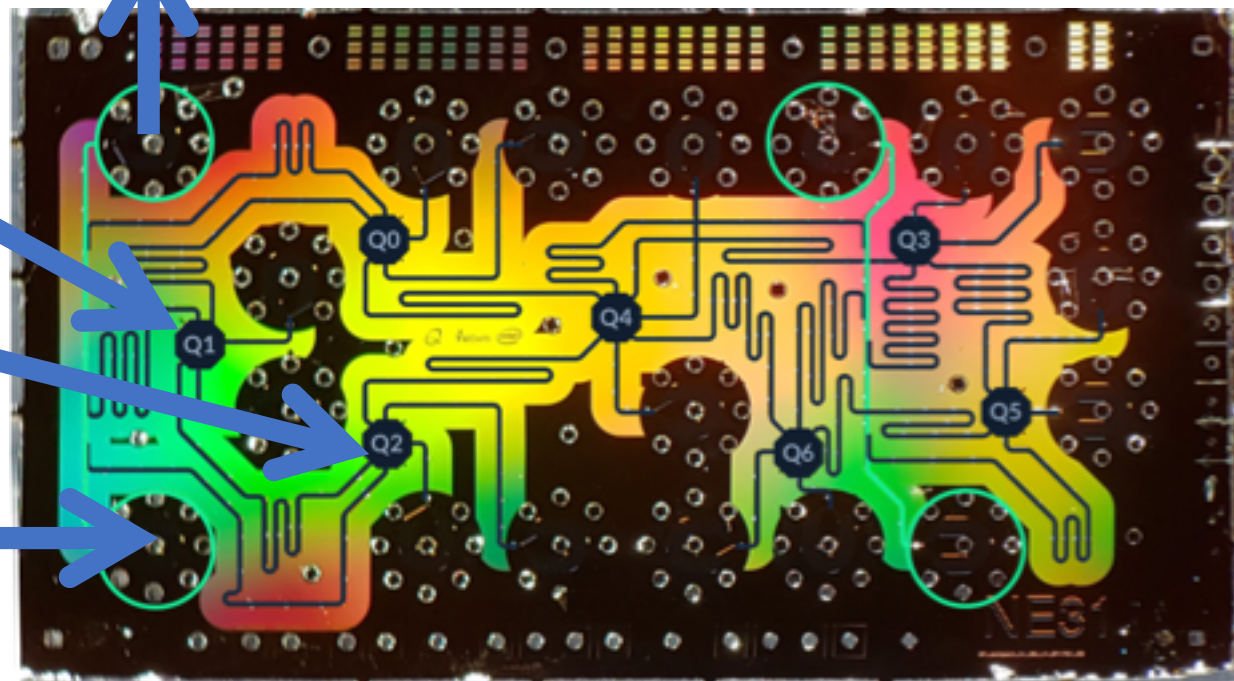


=

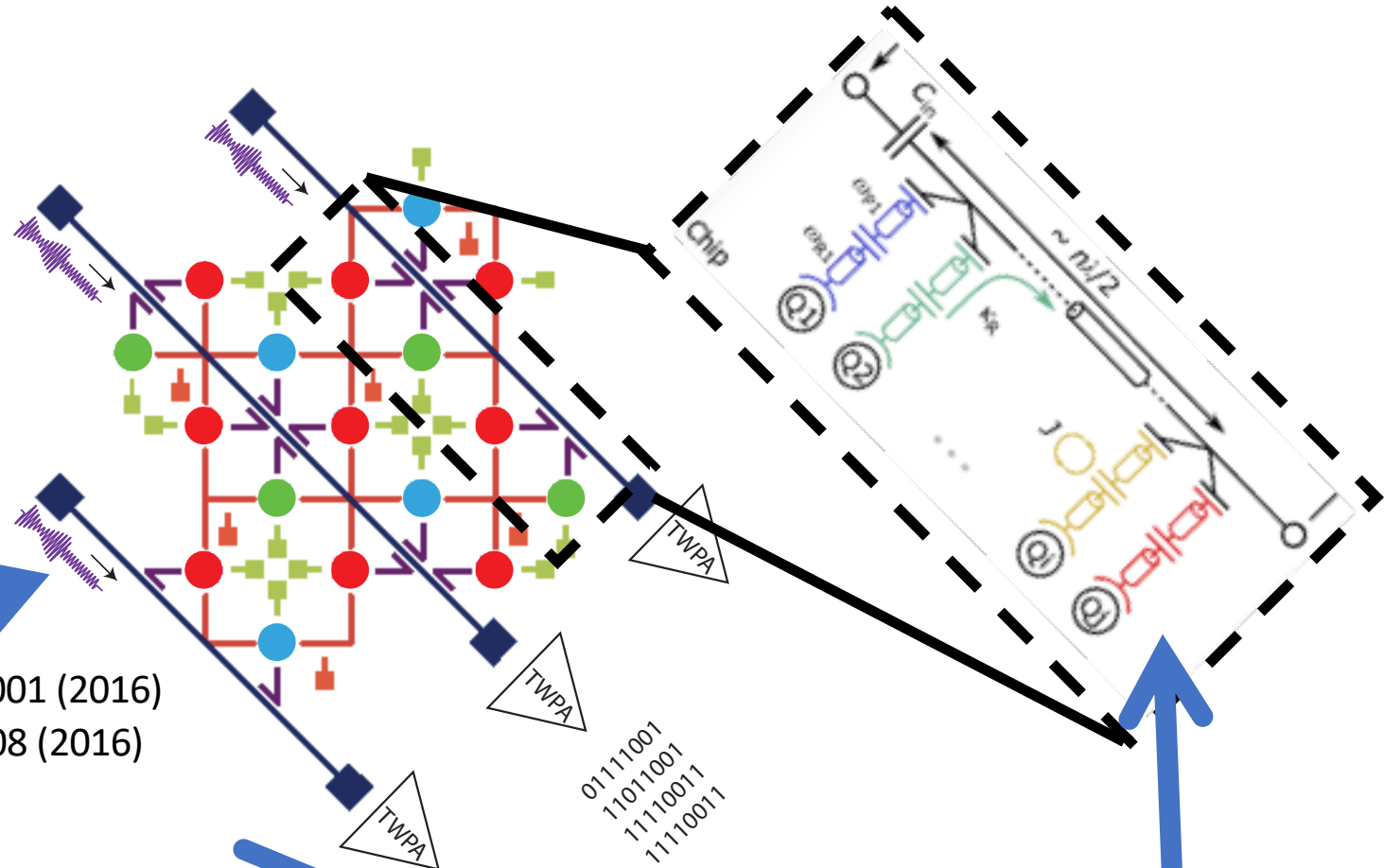


Qubit 1

Qubit 2



# Hot topics



## Advanced pulse shaping

[3]: D. T. McClure *et al.*, Phys. Rev. Appl. 5, 011001 (2016)

[4]: C. C. Bultink *et al.*, Phys. Rev. Appl. 6, 034008 (2016)

## Benchmarking and improving superconducting amplifiers

[5]: C. Macklin *et al.*, Science 350, 307 (2015)

[6]: C. C. Bultink *et al.*, APL 112, 092601 (2018)

## Advanced readout topologies

[7]: E. Jeffrey, D. Sank *et al.*, PRL 112, 190504 (2014)

[8]: J. Heinsoo *et al.*, ArXiv, 1801.07904 (2018)