


# Experimental Data of Ping-Pong and Cross-Point Calibration



- Backend: ibmq\_ehningen (located in Germany)

- Processor Type: Falcon r4 

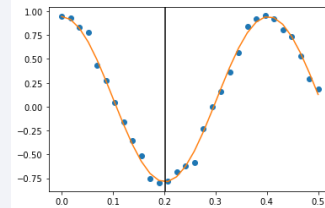
- Shots: 256

- 30 data points per experiment

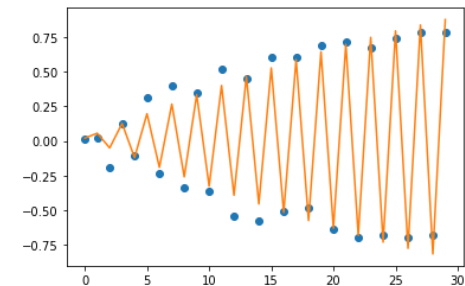
- Fitting model:

- Ping-Pong:  $-\cos\left((\Delta\varphi + \pi) \cdot x - \frac{\pi}{2}\right) + b$

- Cross-Point: *if*  $y_1 - y_2 = 0$

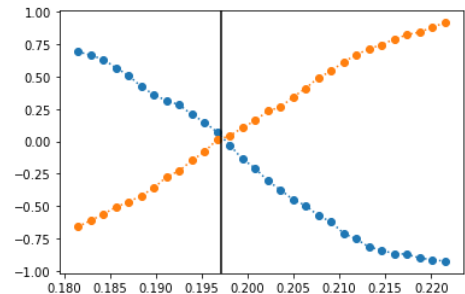


Roughly calibrated pi\_amp: 0.20148



Fitting uncertainty: 3.5%

Pingpong round 1  
pi\_amp: 0.19921



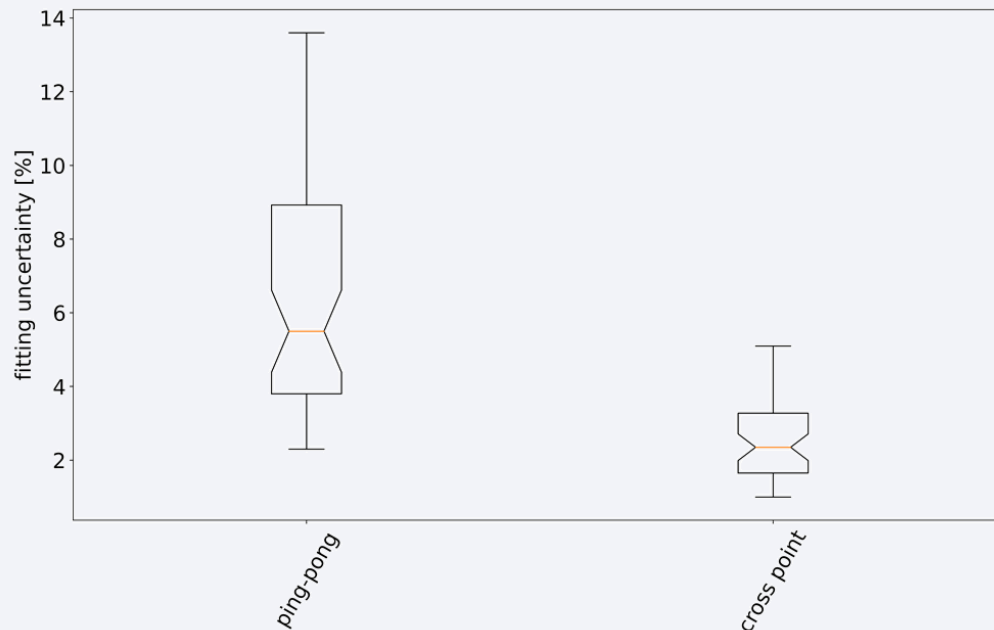
Fitting uncertainty: 2.0%

Crosspoint round 1  
pi\_amp: 0.19714

# Fitting uncertainty

- Median of Cross-Point Fitting Uncertainty two times smaller
- Variance almost 200 times bigger for Ping-Pong calibration

Calibration	Ping-Pong	Cross-Point
Median	5.5	2.4
Variance	421.7	2.3



# Comparison Cross-Point and Ping-Pong Calibration

Cross-Point Calibration:

- better fitting
- smaller variance
- less outliers (not shown in the graph)

Signal-to-Noise ratio:

