

Abstract

This presentation is focused on the optimization of the Travelling Wave Parametric Amplifier (TWPA). In qubit circuits, this device amplifies signals coming out of the qubit package: introducing little noise in the process. In order to function, the TWPA is driven by a pump at a specific frequency and power, but only a few pump configurations provide optimal TWPA performance. During this presentation, I go over the procedure by which the optimal configuration of the TWPA was found and display the results. I will also briefly discuss a noise handling procedure that was implemented to avoid noise dominated data: a problem that became prevalent during my internship. In the end, I explain the benefits of my work to the larger project relating to spatially correlated errors within qubits.