Basic Bringup: Cryorefrigerator

# Introduction

This document is an ongoing document detailing the current status of the quick test cryorefrigerator. The intent of this document is to note current problems and attempted solutions as well as providing a history for the project.

# Goals

The goal of this project is to make a cold chamber that can quickly and cost effectively reach a few temperatures. The use for this system would be quick tests of samples prior to placing them in the main cryostats that take ages to reach temperature.

# Progress

A broad strokes design was settled on for the cold chamber. A decommissioned refrigerator tube will make the outside body of the new fridge. Then by simply having a new top plate machined we will have a sealed system.

The top plate will require a hole pattern such that the PT415 by Cryomech can bolt directly to the top plate. In addition to that a series of KF50 and potentially KF25 flanges should be machined into the plate.

Going forward the most time sensitive step is to submit the job to STS. For this reason we will mock up the top plate in a CAD software and hopefully submit the job before fleshing out the details of the assembly and experiments that are intended to be run.

For CAD see the CAD folder.

Cryomech has been emailed requesting a CAD file for the PT415.