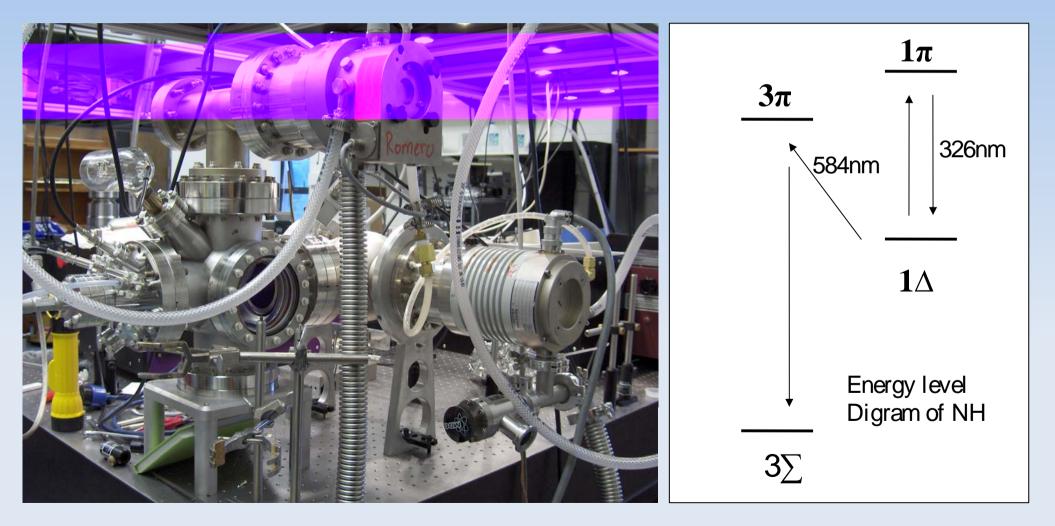
Optical Pumping of NH

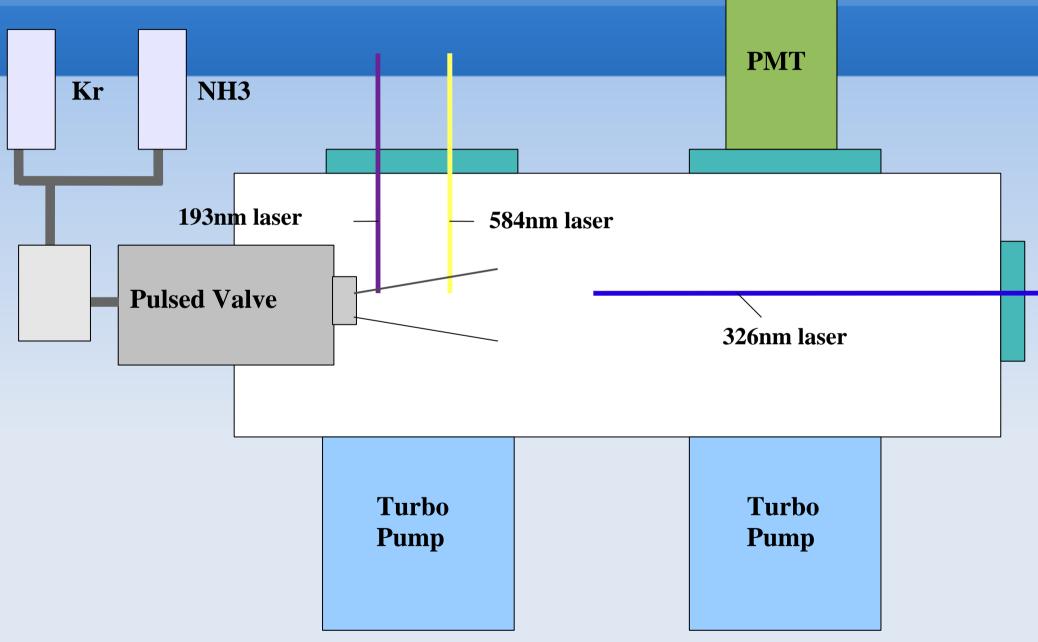


Optimization Experiment: Goal

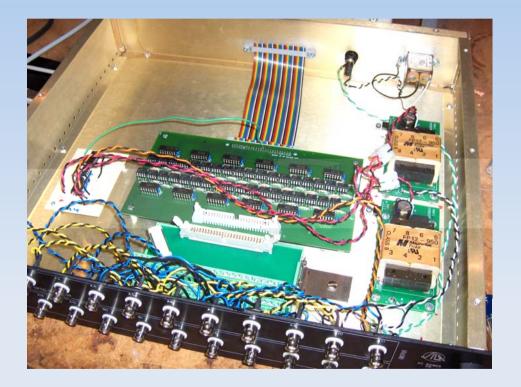
To optimize the production of NH in the delta state.



Optimization Experiment: How it works



Opto-Isolator



• What it does:

- Interfaces computer with experiment's equipment.
- Isolates experimental equipment electrical from computer.

• How it works:

- light emitting device and an optical sensor.

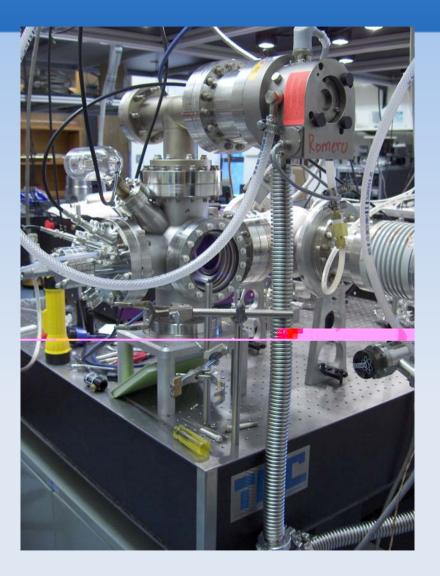
• Problems:

Could not follow directions, which resulted in the wrong chips being used.

Vacuum Chamber: Problems

• Turbo Pump Noise:

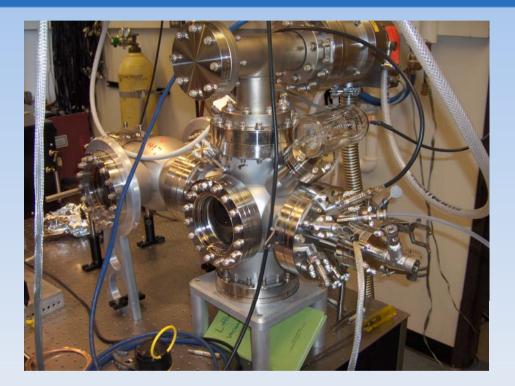
- One turbo molecular pump was making loud noise. Noise most likely a result of bearings going bad.
- Chamber went down to 3.3x10^-6 torr.



Vacuum Chamber: Problems

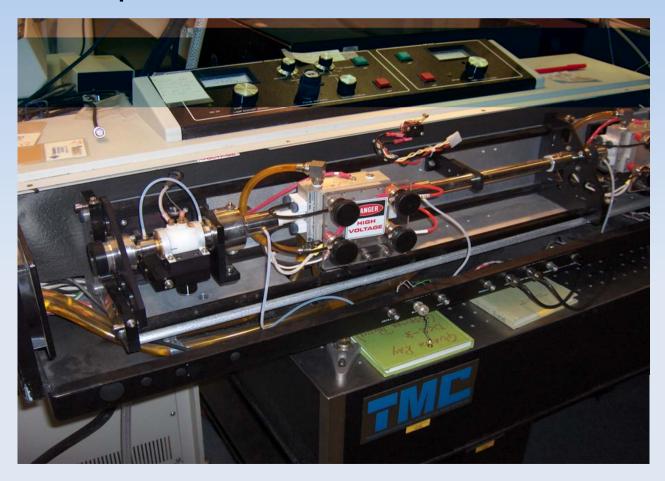
• Ion gauge problem:

- Discovered removing cable detecting current from Ion gauge resulted in the pressure reaming the same.
- Found this really depressing.
- Put together new cable.
- Found chamber pump down to roughly 5.0* 10^-8 torr.





Function: To pump dye laser with 532nm, which will then produce a 584nm laser beam.



Nd:YAG Problems



• Cooling system

- Changed filters and flushed system with clean water.

Power

 System requires 50 amps at full power, but was only connected to cables and a breaker rated at 20 amps.

Thanks for a great summer.

Thanks Heather, Paul, and Dan.