

# Diamond Amplifiers Experiment

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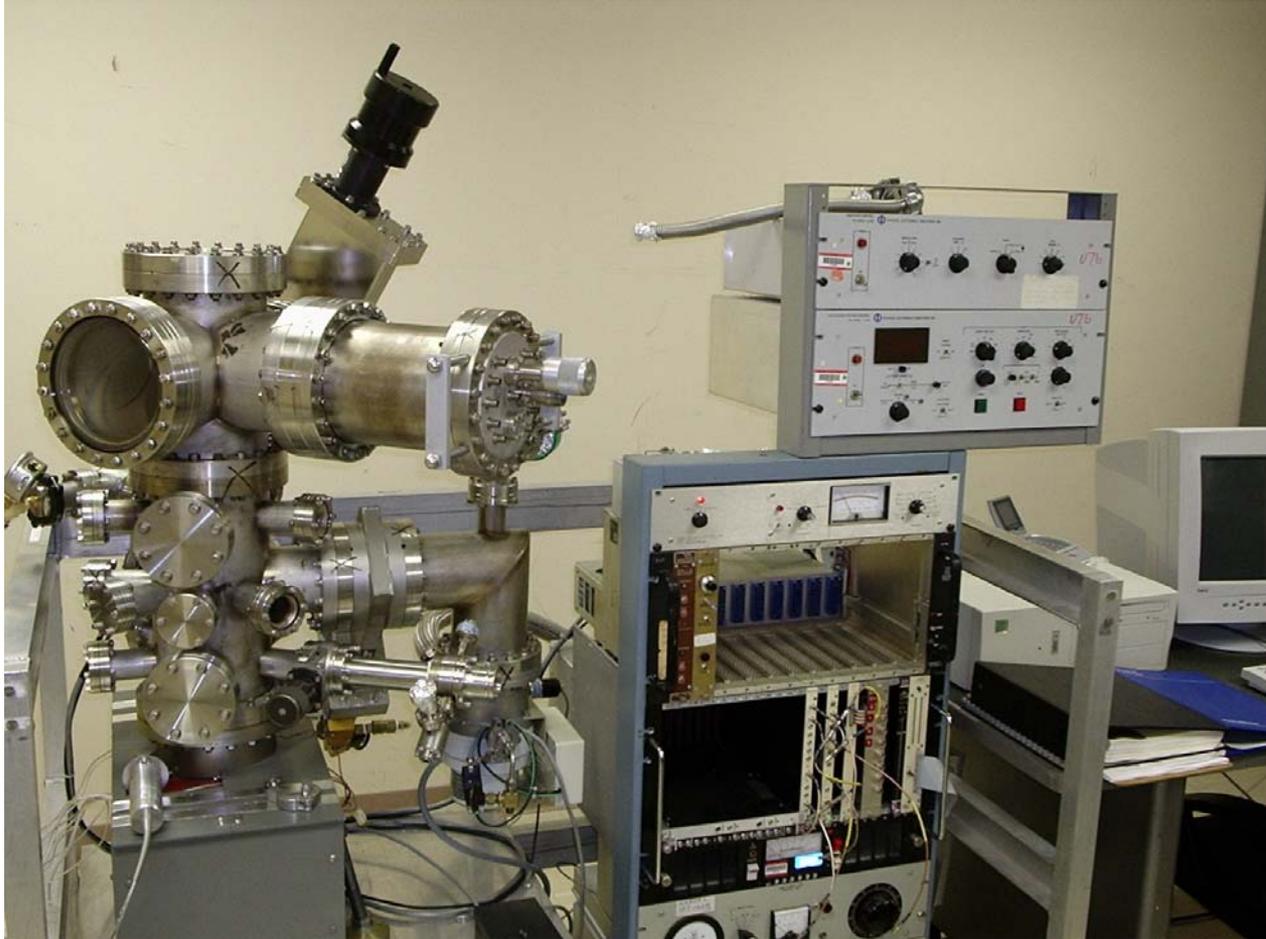
# Experimental Program

- Measure SEY, and Energy spread
- Measure transit time and temporal broadening
- Determine High Current Performance
  - **for reflection mode & transmission mode**
  - **In low field & high field**
  - **In normal temperatures & cryogenic temperatures**
  - **In DC bias & SCRF injector**

## Establish design criteria

- Sample thickness
- Doping concentration
- Surface preparation

# UHV, DC Test System



Consists of:

Electron Gun

Energy Analyzer

Cryo sample holder

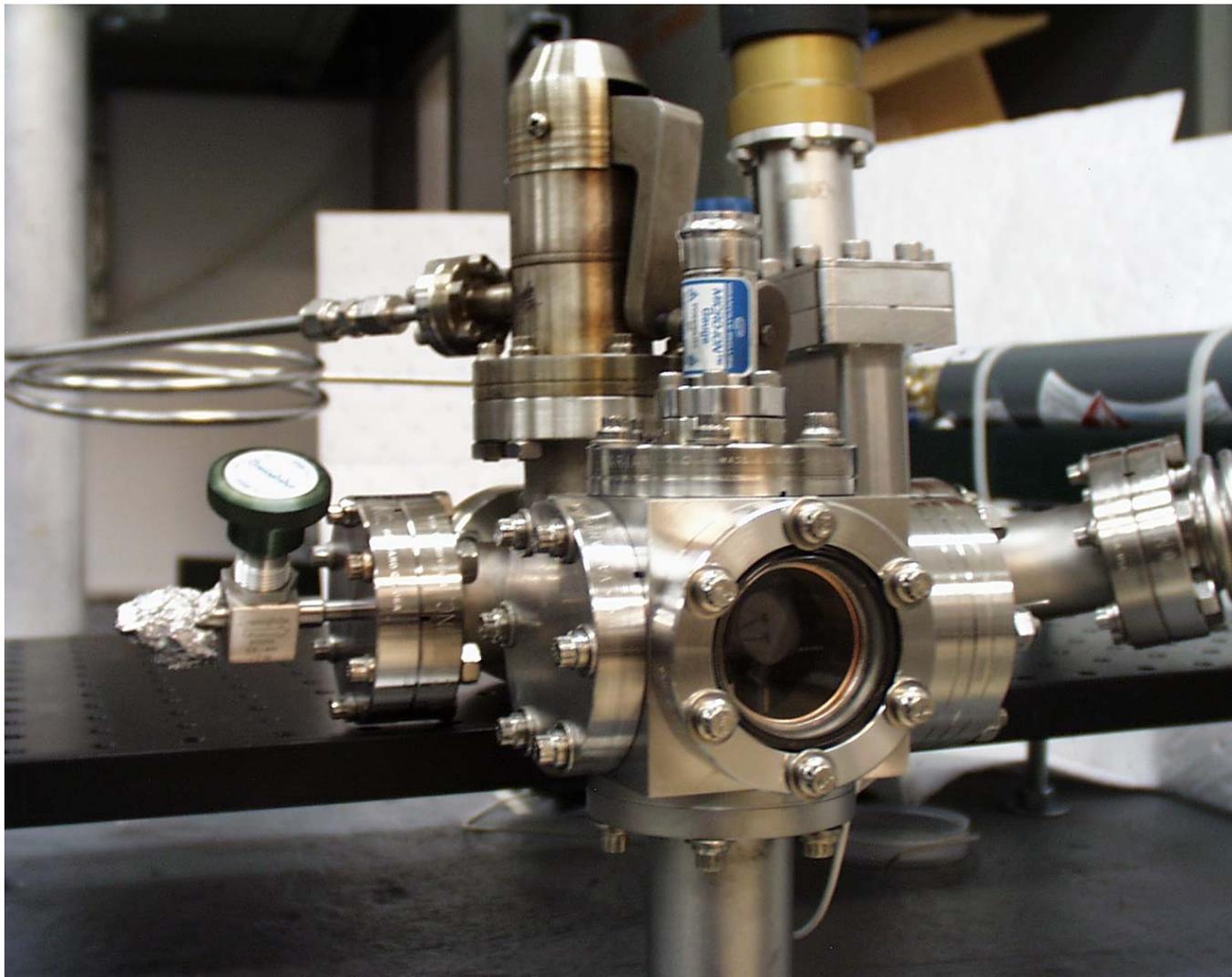
Short pulse laser

UV, glass windows

HV, signal feed  
through

Computer controlled  
DAQ

# Hydrogenation cell



W tip heated to 800 C, H<sub>2</sub> Pressure 10<sup>-6</sup> Torr, exposure time ~ 15 minutes