

## **Physics 4062/5062 – Tutorial Three – Laser Locking**

### **Lock-in Amplifier**

- homodyne detection
- detection of modulated signal

### **Components of feedback loop**

- Phase shifter
- Mixer
- Low pass filter
- Oscillator
- Ramp Generator

### **Locking to Atomic Spectral Line - Review Saturated Absorption, possible lock points**

- Signal shape without scan
  - Effect of modulation on response if line shape is involved
- Signal shape with scan - dispersion shape

### **Technique for determining correct phase/lock point**

### **Monitoring Lock Jumps**