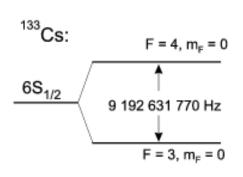
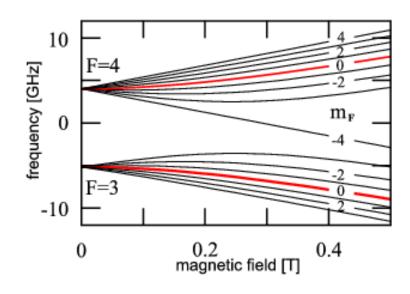
# Lecture 7

- Optical Bloch equations. Pseudospin.
- Excitation by sequence of coherent pulses. Ramsey method.
- Cesium beam apparatus. Allan deviation, stability, accuracy.



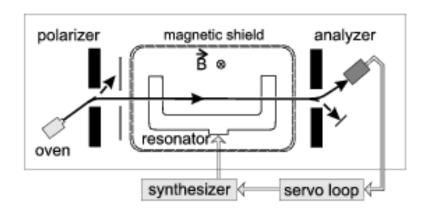
## **Cs ground state splitting**

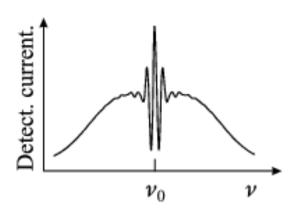






#### Cs beam clock



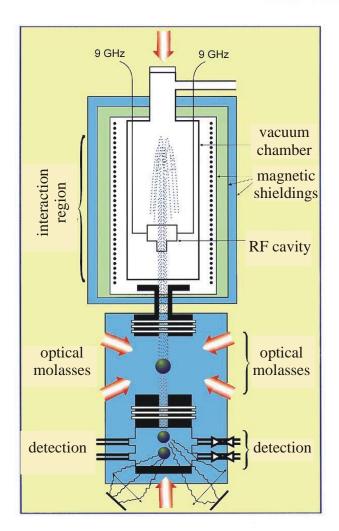


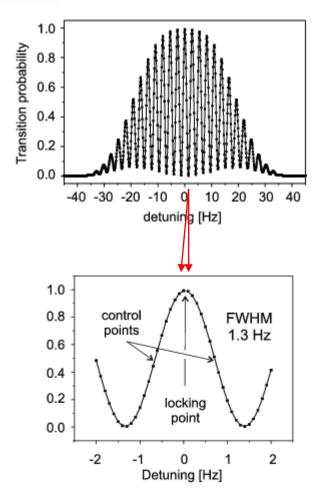




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#### **Cs** fountain clock

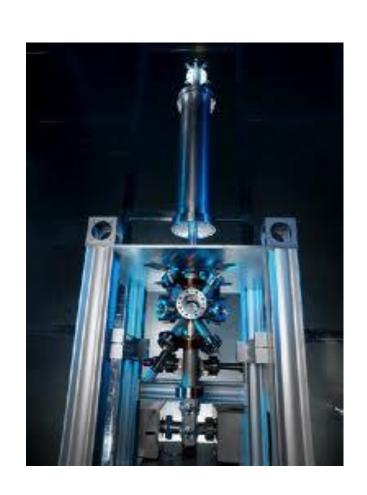


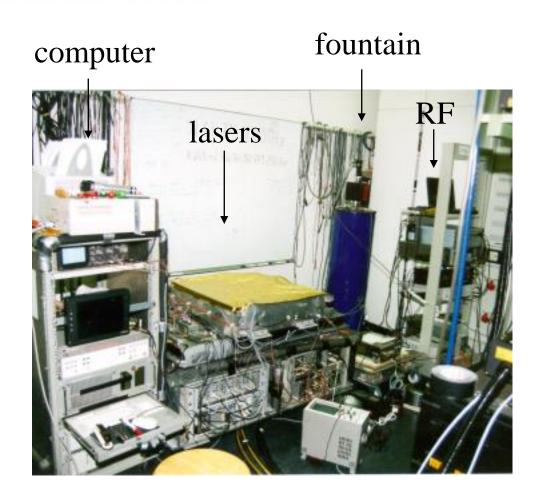




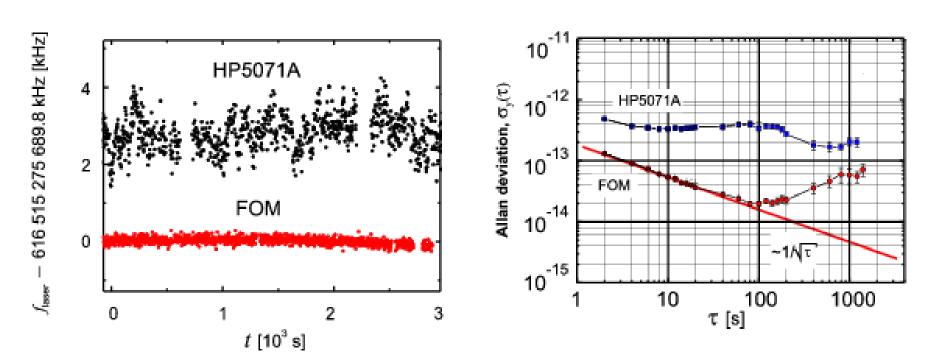
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### **Cs** fountain clock





#### **Performance**



Today's best accuracy 2x10<sup>-16</sup>