

GAS LASER





**Iranian-American
physicist
Ali Javan**



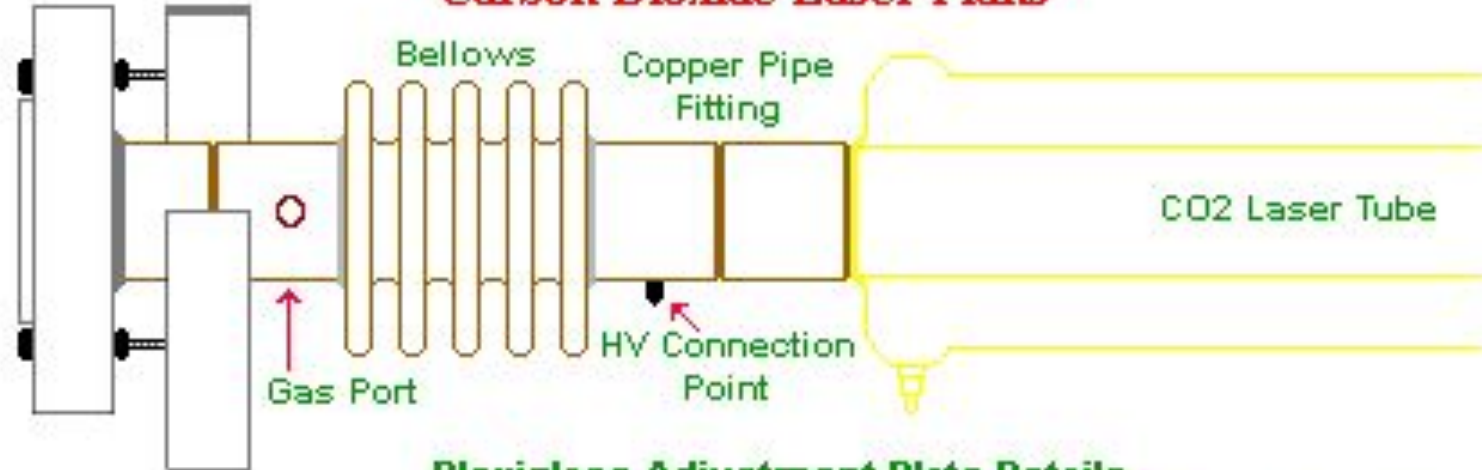
**American physicist
William R. Bennett, Jr.**

Types of gas laser

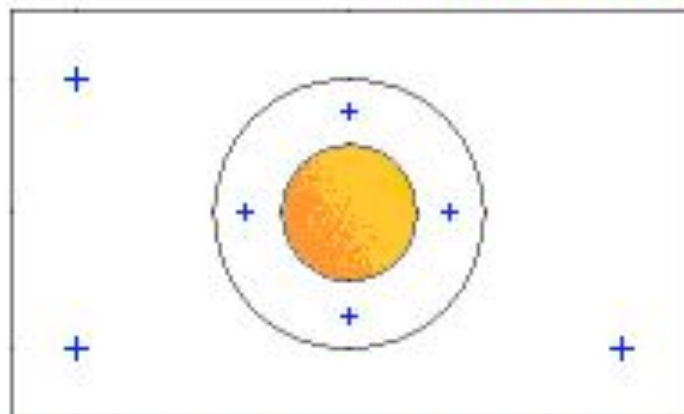
- ▣ *Carbon dioxide lasers, or CO₂ lasers*
- ▣ *Carbon monoxide lasers*
- ▣ *Helium–neon (HeNe) lasers*
- ▣ *Nitrogen lasers*
- ▣ *TEA lasers*
- ▣ *Chemical lasers*
- ▣ *Excimer lasers*
- ▣ *Ion lasers*
- ▣ *Metal-vapor lasers*

Carbon dioxide lasers

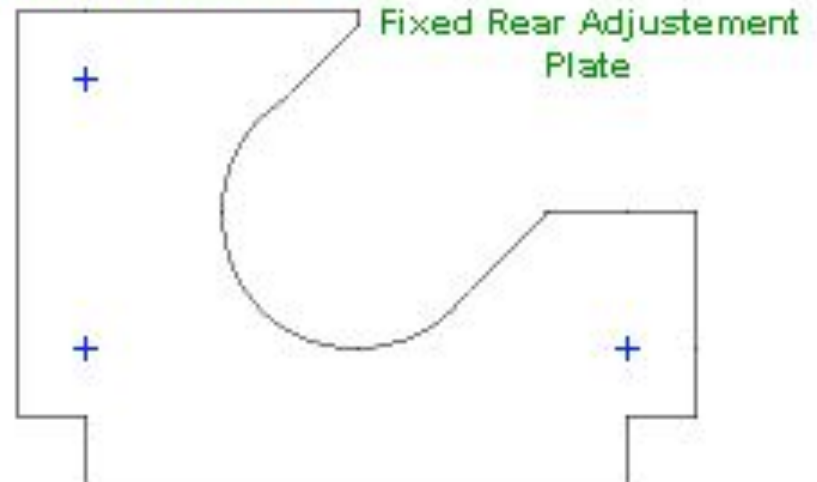
Carbon Dioxide Laser Plans



Plexiglass Adjustment Plate Details

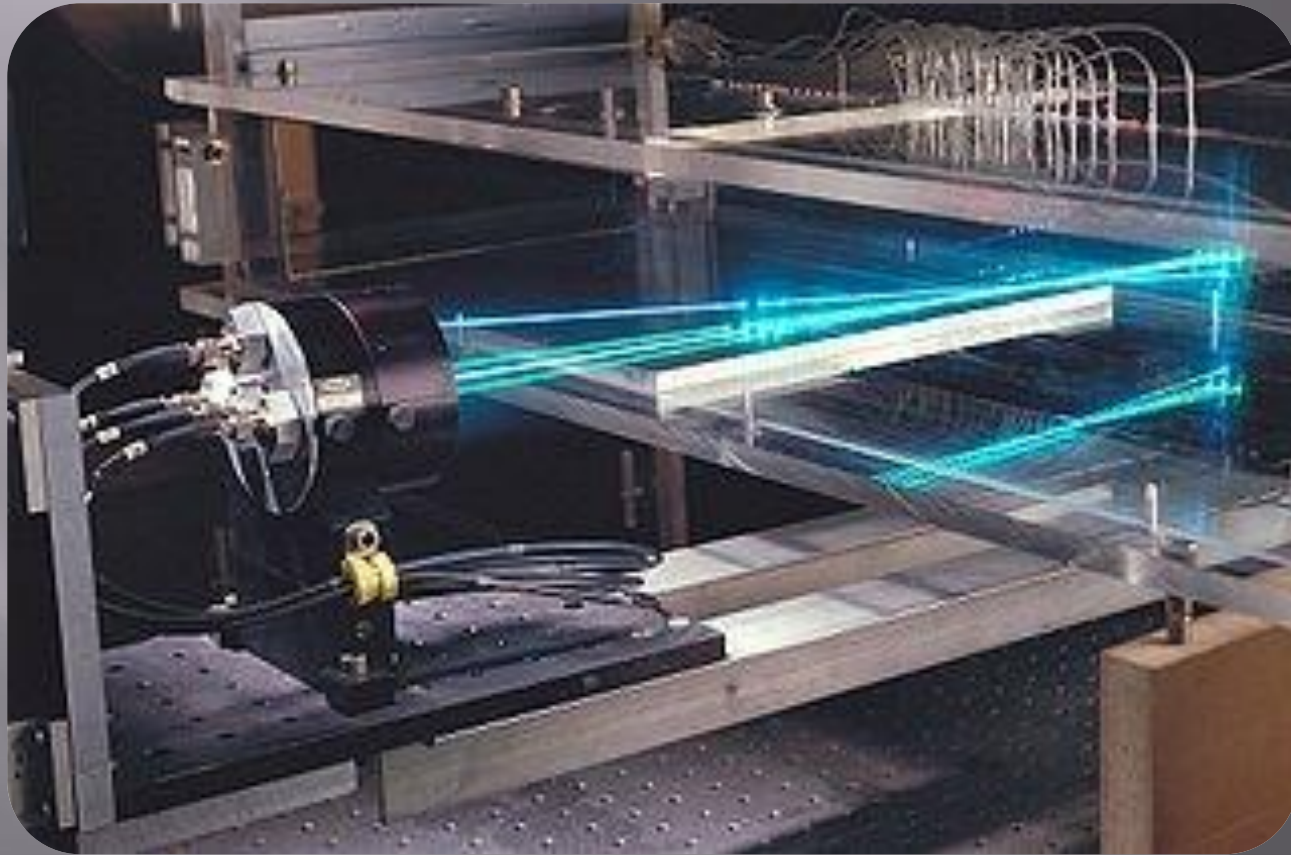


Front Optic Supporting and Adjustment Plate

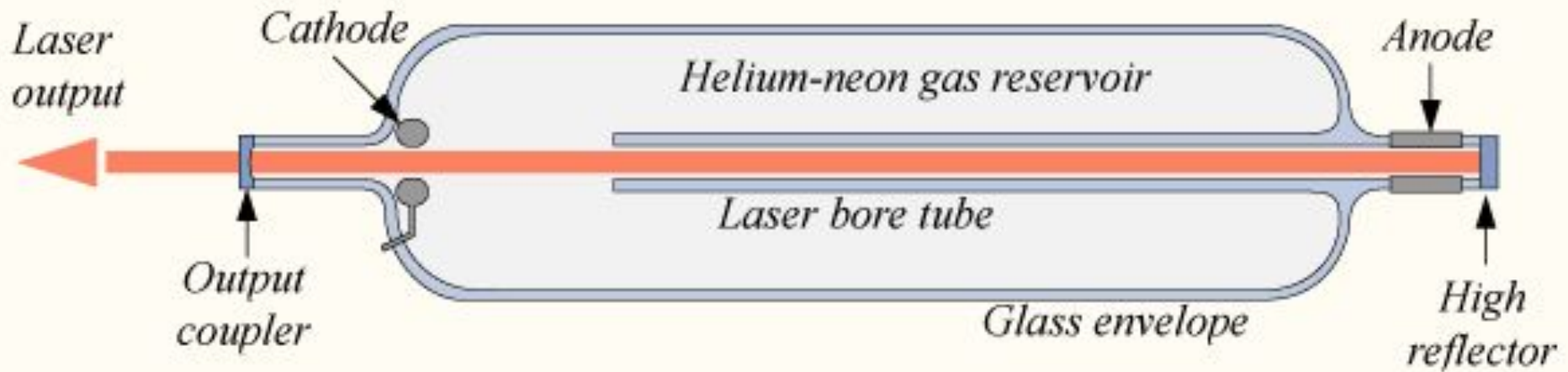


Fixed Rear Adjustment Plate

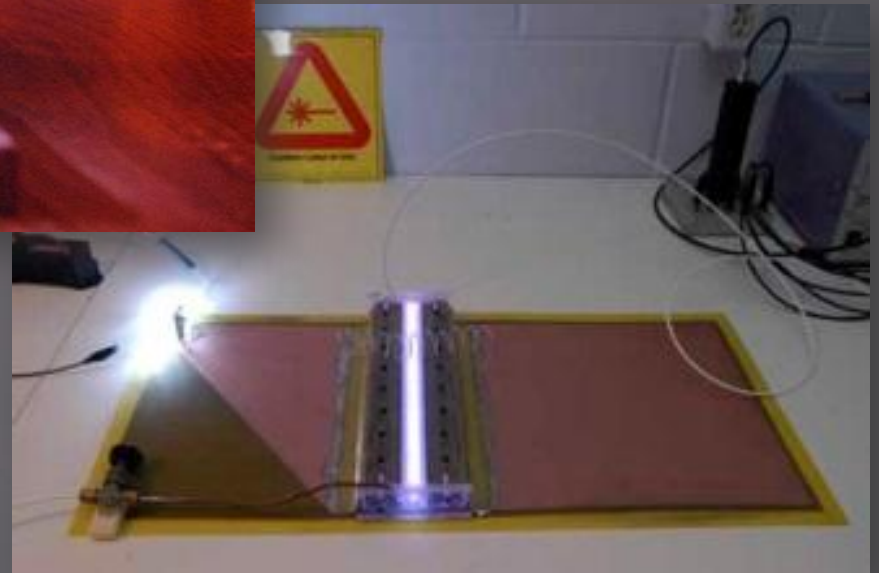
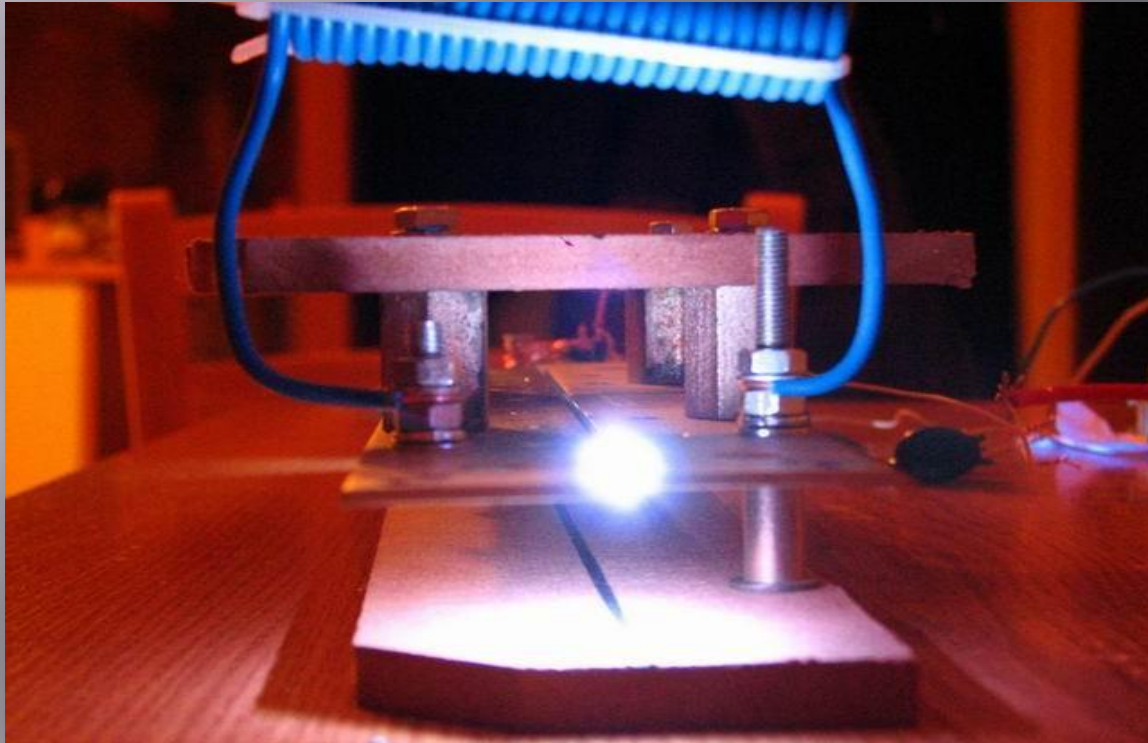
Carbon monoxide lasers



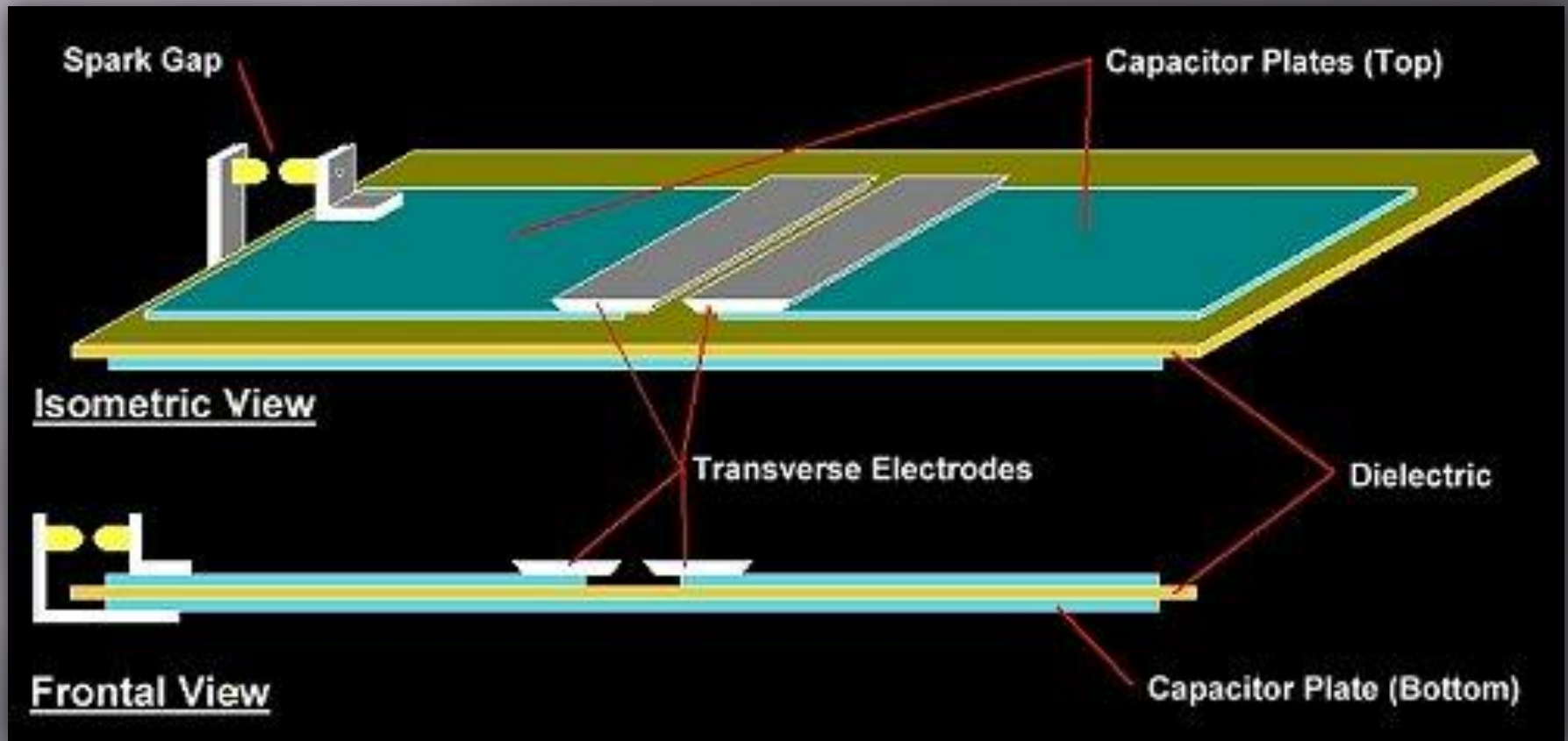
Helium-neon (HeNe) lasers



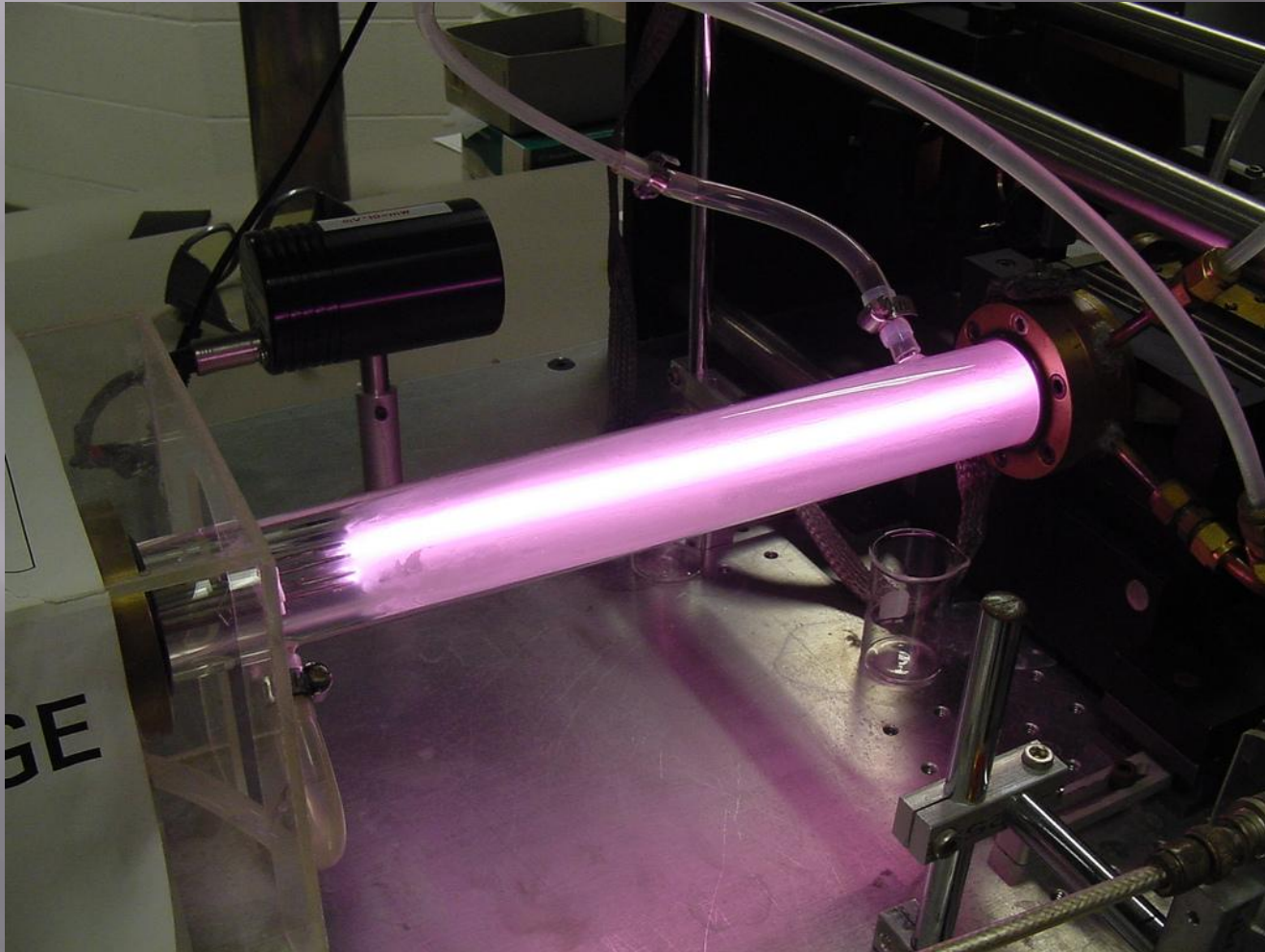
Nitrogen lasers



TEA lasers

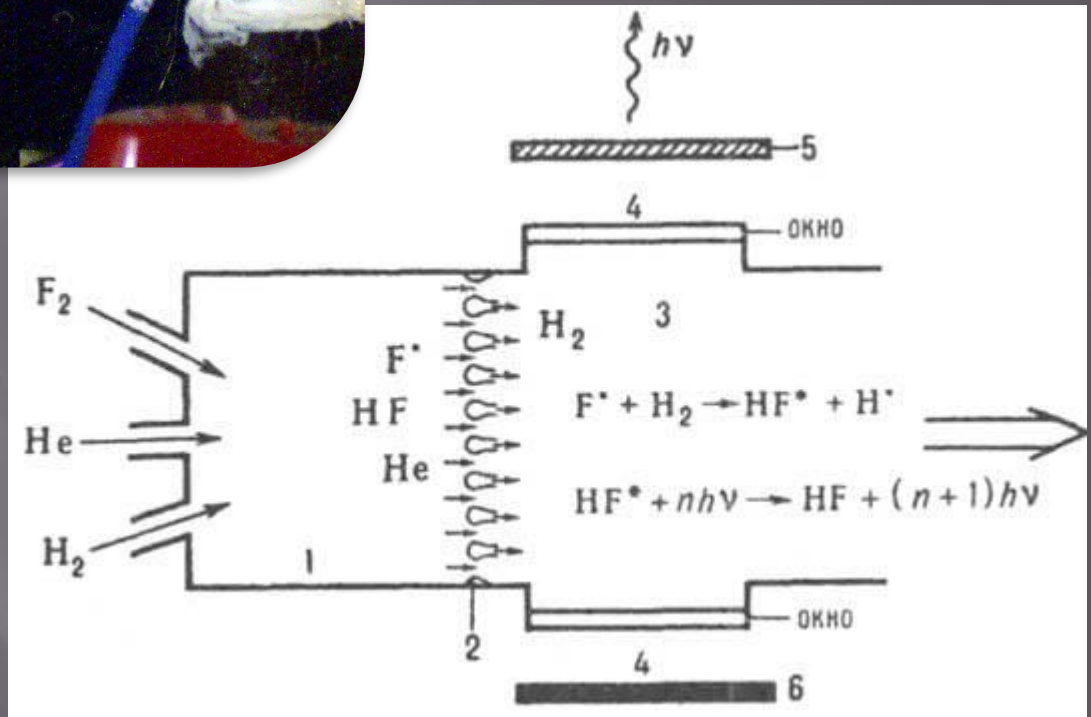
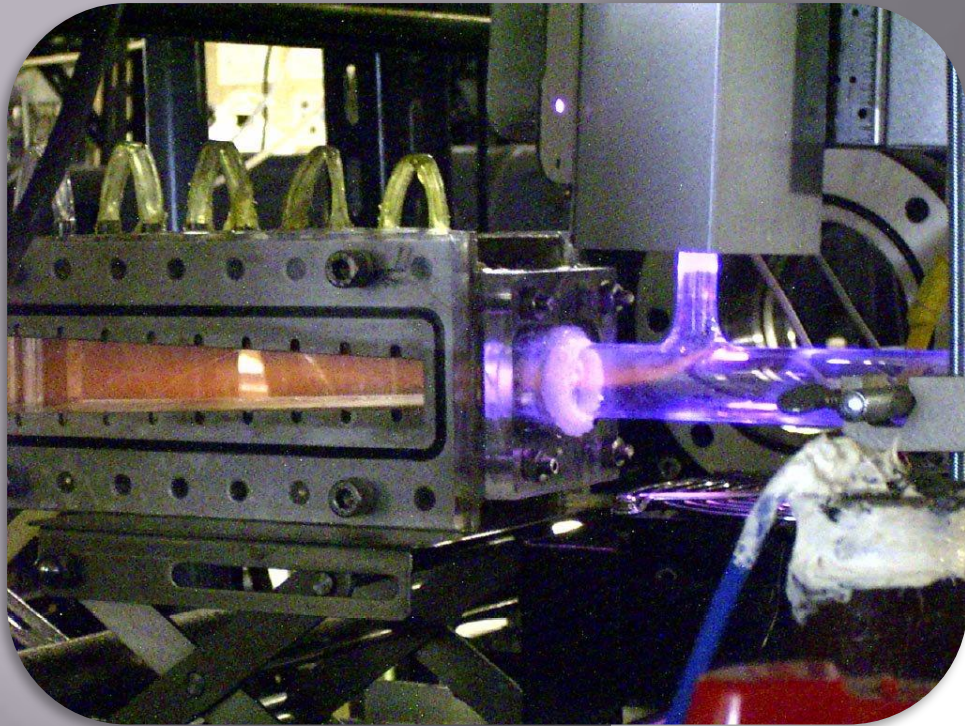


Chemical lasers

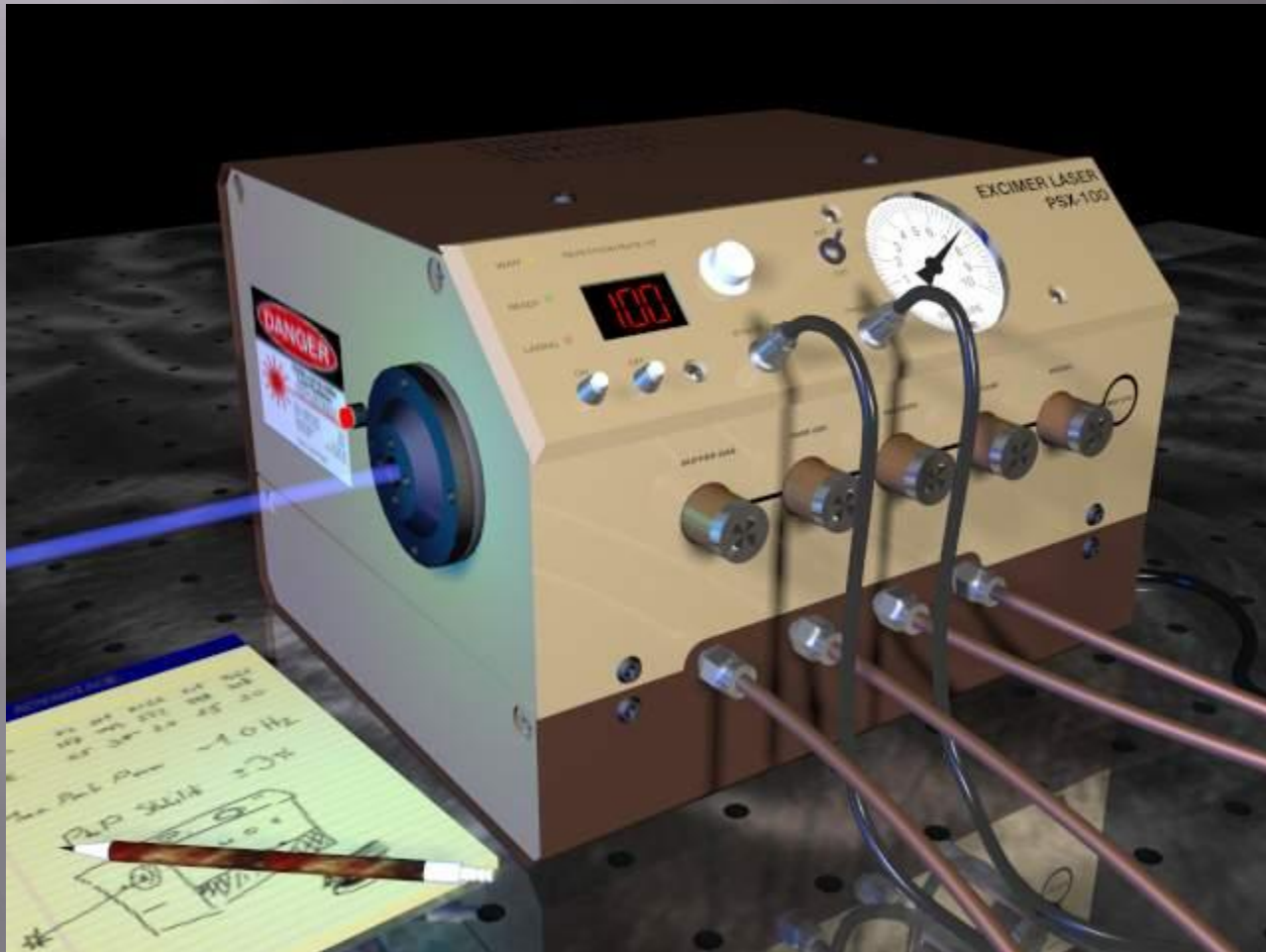




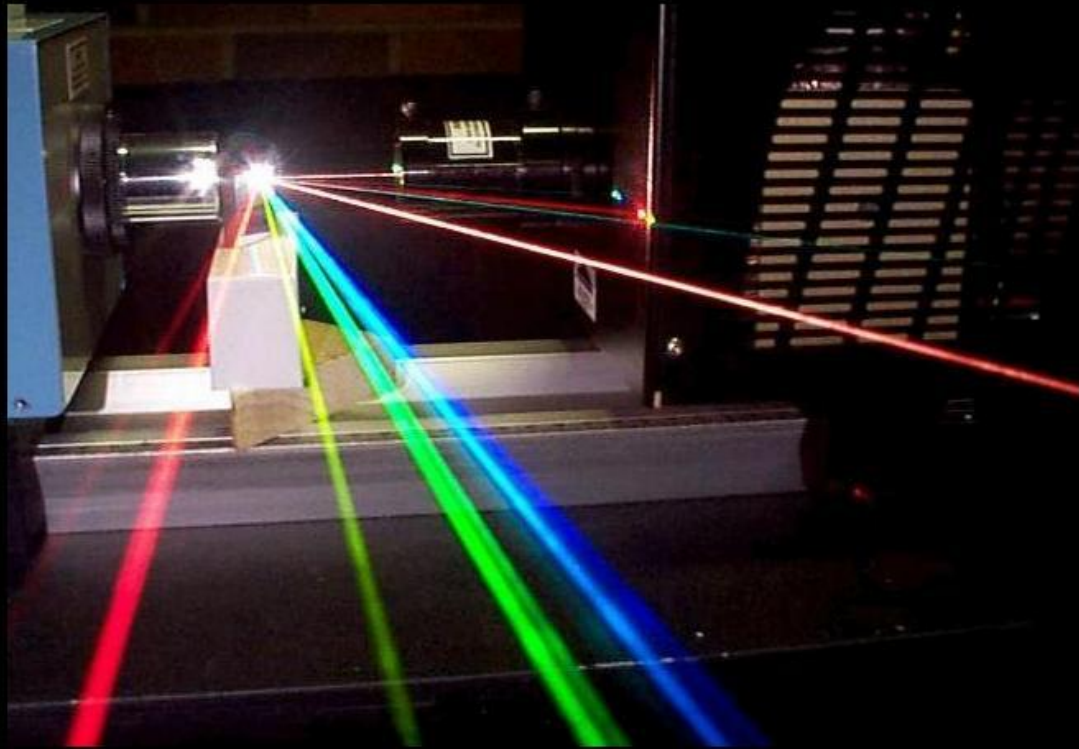
George C. Pimentel



Excimer lasers

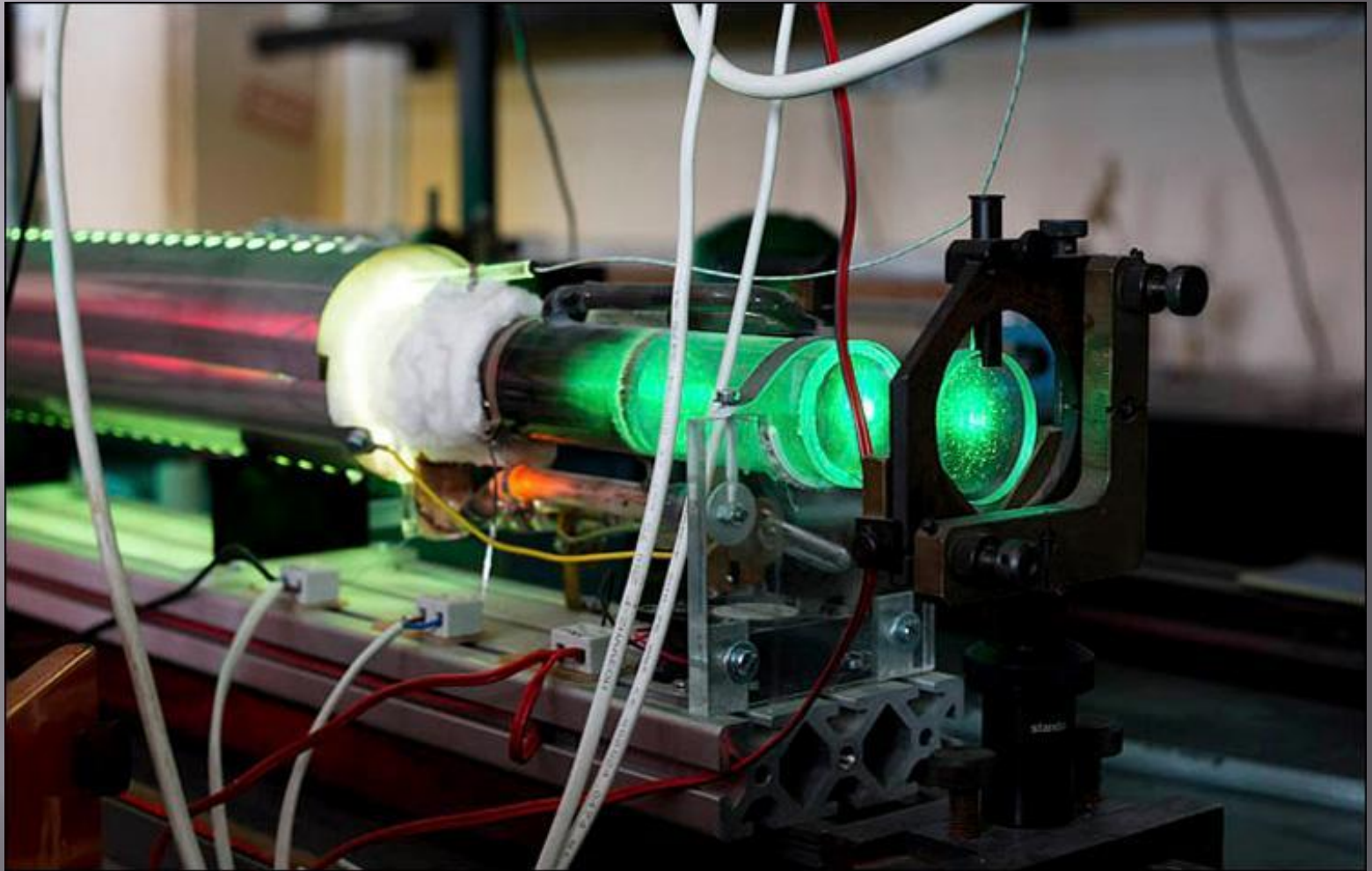


Ion lasers



Whitelight Ar/Kr Ion Laser Spectral Lines

Metal-vapor lasers



Advantages:

- ❖ High volume of active material
- ❖ Active material is relatively inexpensive
- ❖ Almost impossible to damage the active material
- ❖ Heat can be removed quickly from the cavity

Applications

