



LASER PHYSICS

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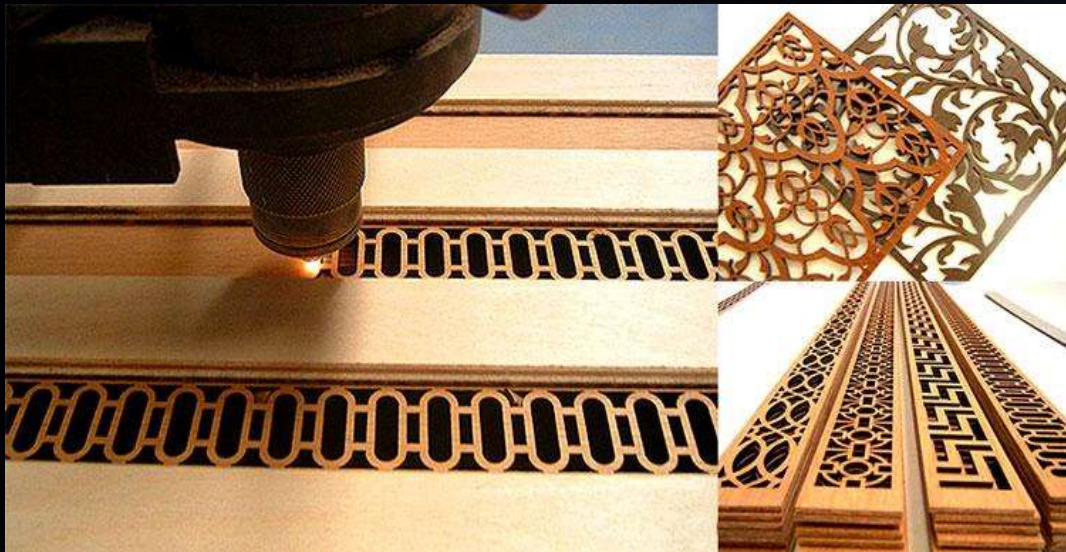
2020-21

LASER

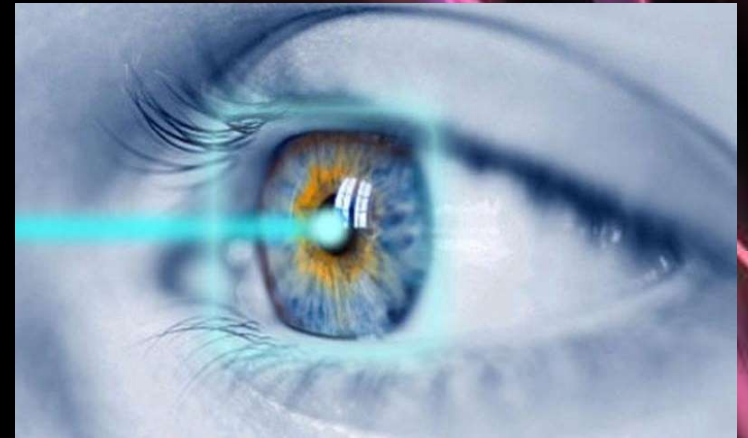
The image features a dark blue to black background filled with numerous thin, glowing blue lines that resemble light trails or fiber optic paths. These lines originate from a dense cluster on the left side and fan out towards the right, creating a sense of depth and movement. The word "LASER" is prominently displayed in the upper left quadrant in a large, white, serif typeface. The overall aesthetic is futuristic and technological.

APPLICATIONS

- Welding
- cutting
- laser fusion

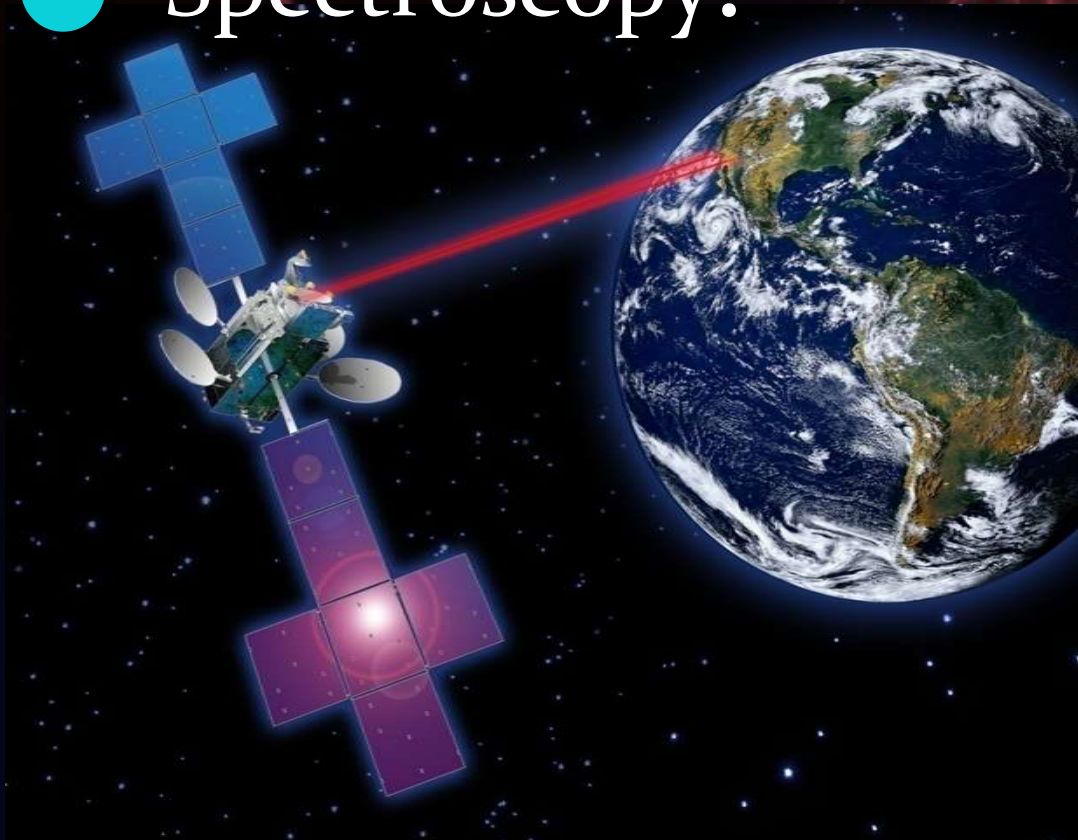
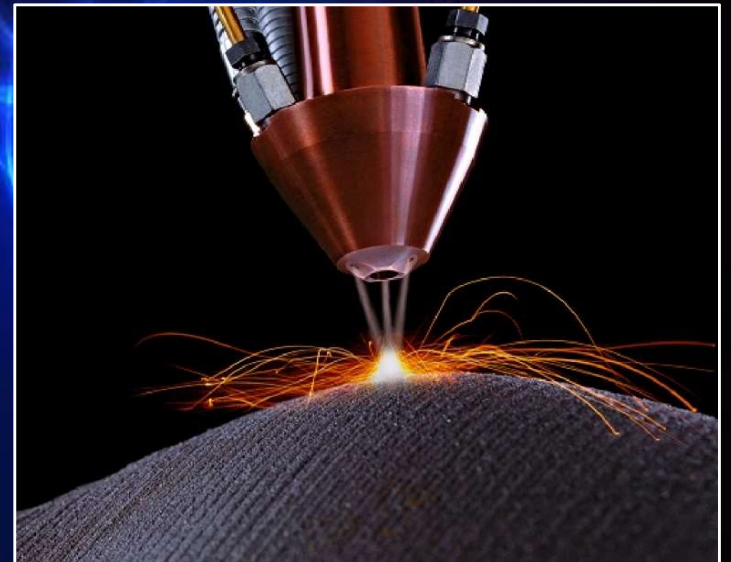


- Directional properties of laser beams, they can be focused to areas of few.
- Surgery, material-processing, Compact Disc.



High spectral purity :

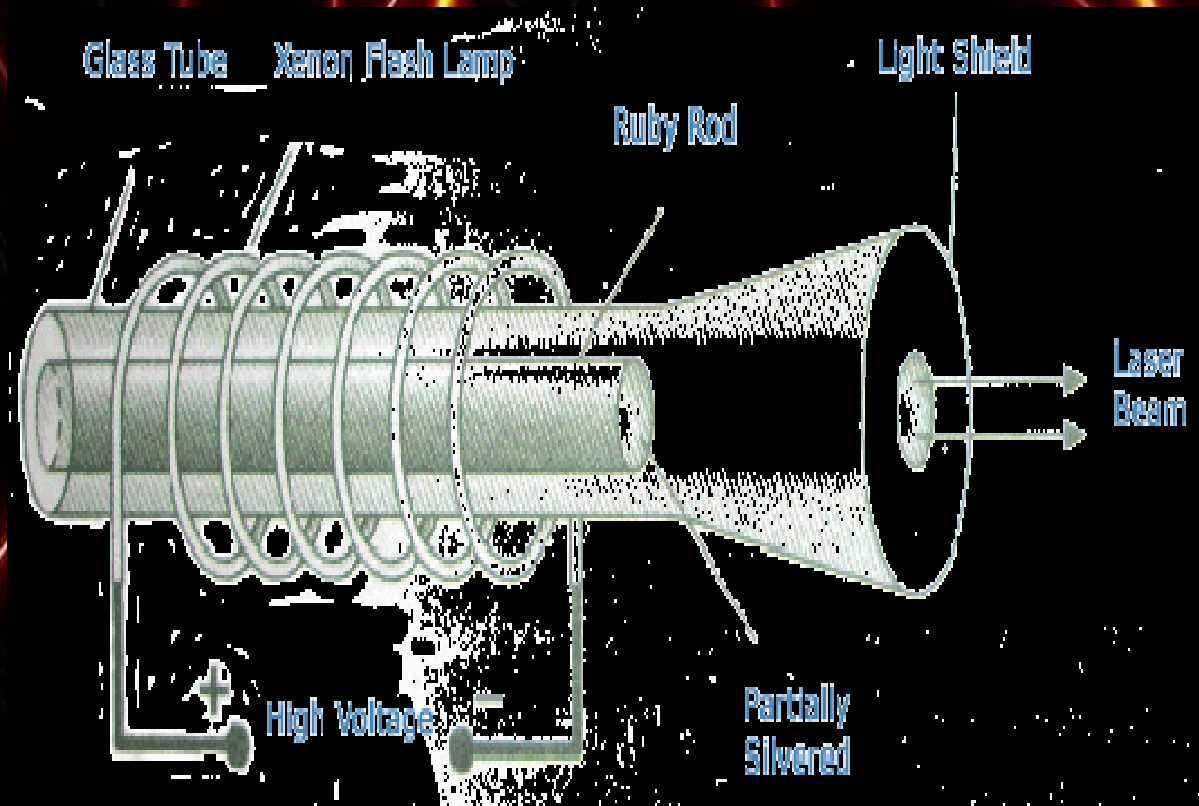
- Holography,
- Optical communications,
- Spectroscopy.



TYPES OF LASER

1. RUBY LASER

Fabricated by Maiman (1960), based on three energy levels.



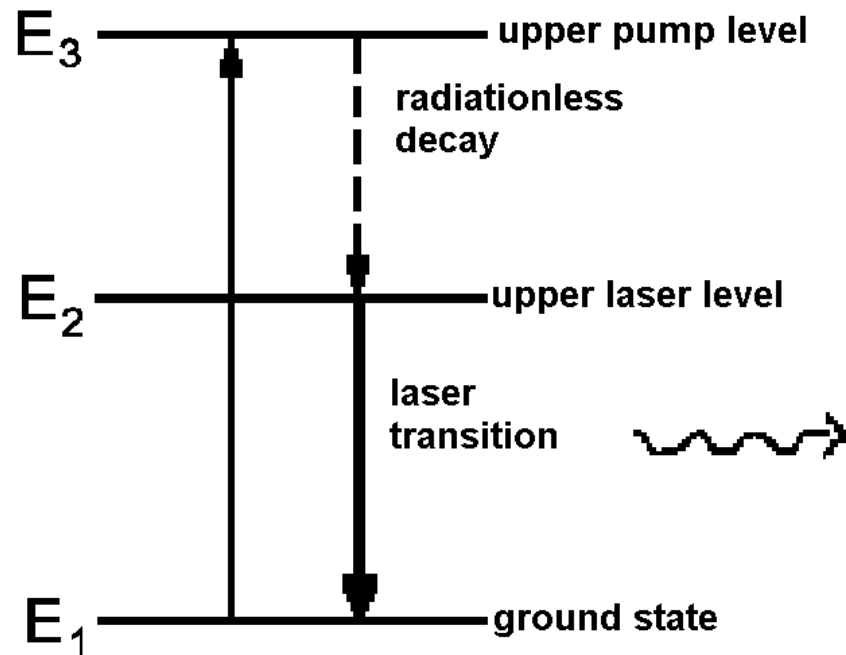
Energy levels of chromium ion

2.25 eV

1.79 eV

Optical
pumping
550 nm

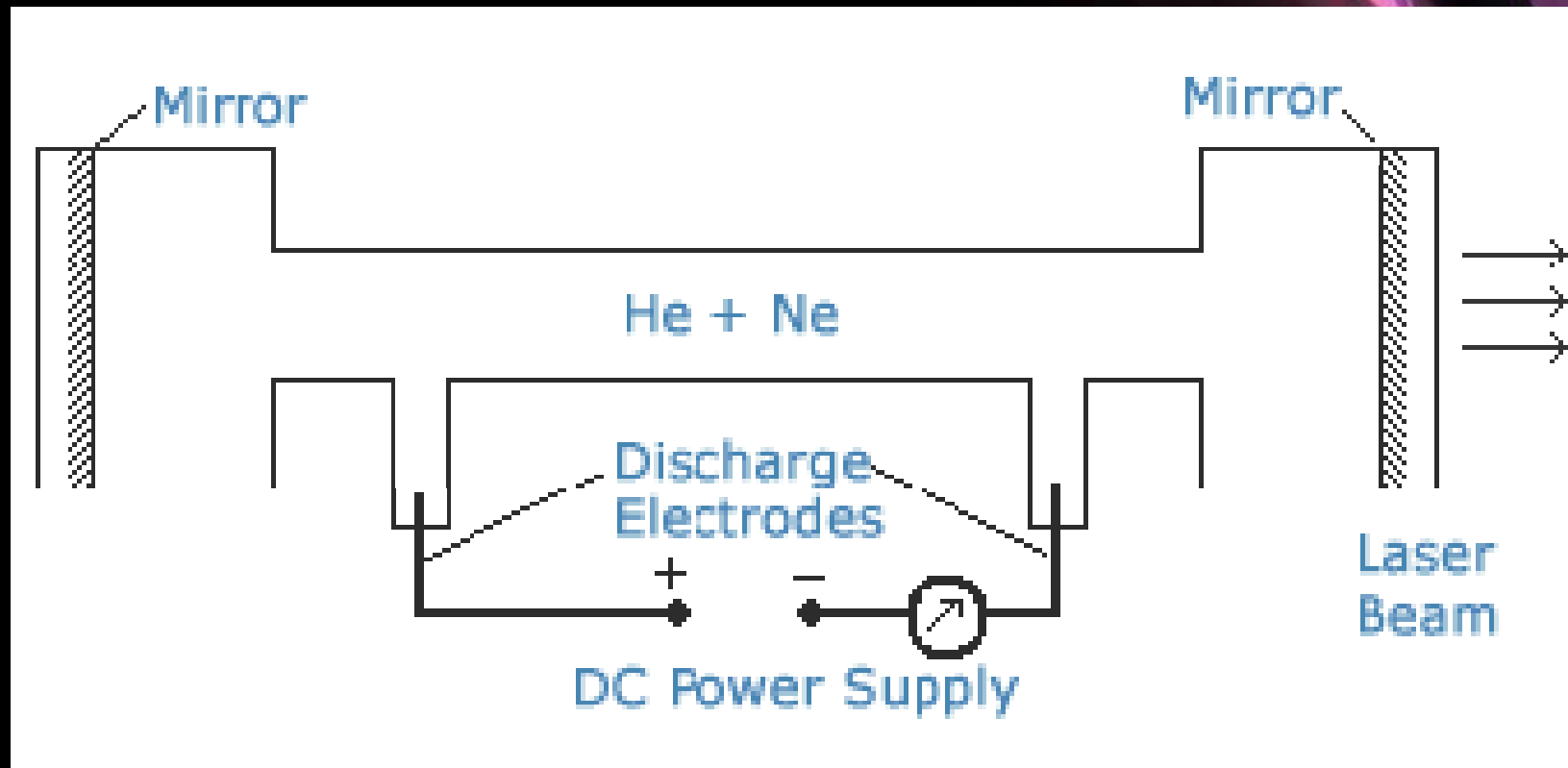
a)



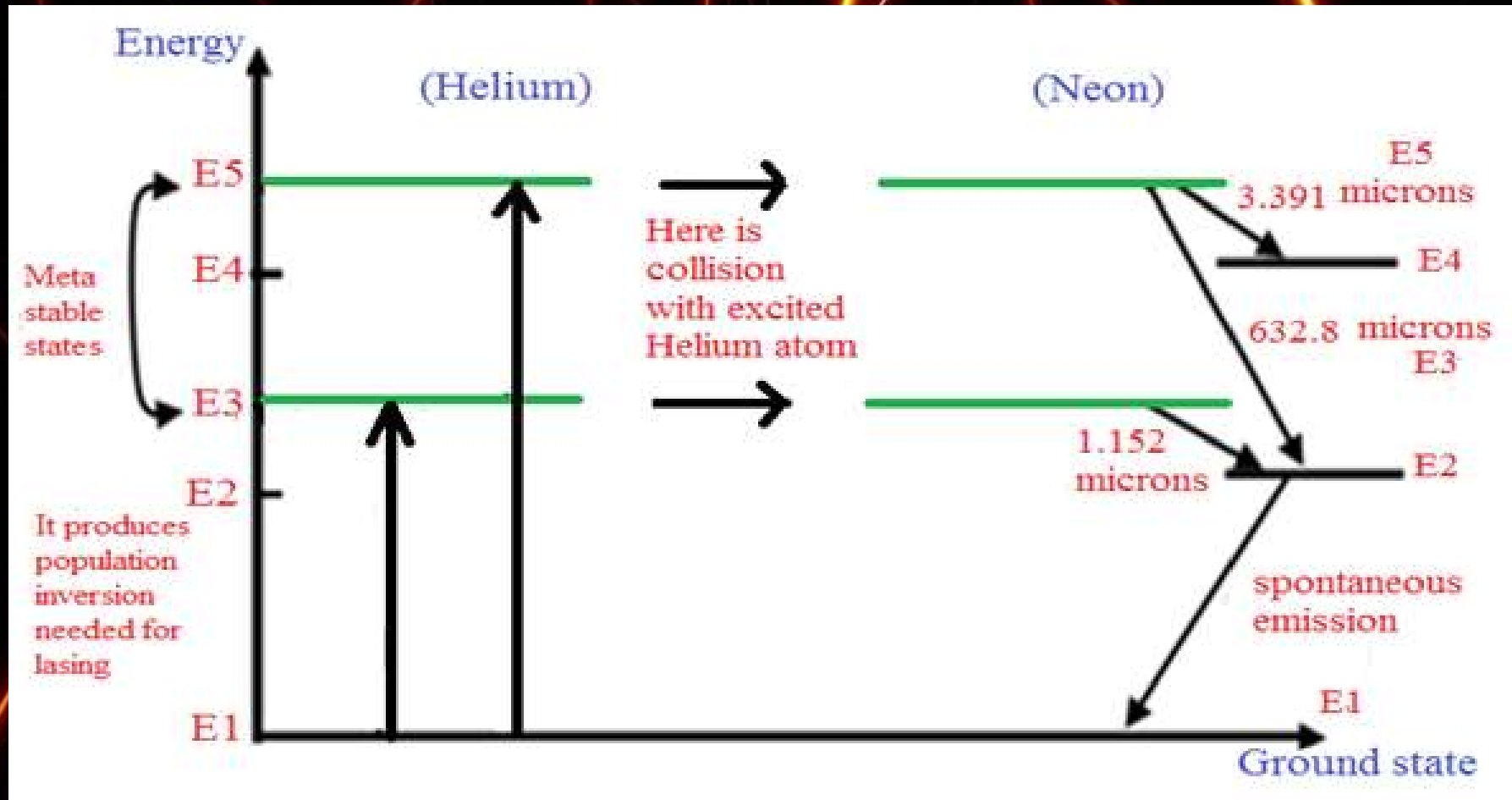
2. He-Ne LASER

Fabricated by AliJavan &
coworkers

in USA



He-Ne : Energy levels



3. Semi-Conductor Laser

- Fabry-perot cavity
- Optical communication
- GaAs

