

## Radar Laser Course

### LOS ANGELES COUNTY SHERIFF'S DEPARTMENT

#### L.I.D.A.R. OPERATOR COURSE (1820-23320)

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- I. Scientific principles of L.I.D.A.R. speed measurement
  - A History and theory
    - 1. L.I.D.A.R. / L.A.S.E.R.
      - 2. How L.A.S.E.R. was invented
      - 3. How the device works
  - B L.A.S.E.R. characteristics
    - 1. Signal speed
    - 2. Wavelength
    - 3. Frequency
  - C L.A.S.E.R. properties
    - 1. Infrared spectrum
    - 2. Narrow beam width
    - 3. Range
      - 1. Reflected
      - 2. Refracted
      - 3. Absorbed
  - D Cosine angle
    - 1. Define
    - 2. Effect
    - 3. Formula

#### 1. Calculations

II General operation considerations

A. Pre-operational considerations

1. Initial considerations
2. Transportational considerations

A. Accuracy checks

1. Internal checks
2. External checks

B. Site selection considerations

1. Site safety
2. Site enforcement
3. Traffic considerations
4. Environmental considerations

C. L.A.S.E.R. effects

1. Radio frequency interference (R.F.I.)
2. Panning
3. Cosine
4. Other interferences

D. Target selection

1. Clear line-of-sight to the target vehicle

1. Visibility conditions
2. Long range vs. short range
3. Reflective surfaces on target vehicle
4. Aiming

B. Tracking history

1. Visual speed estimation
2. Target acquisition
3. Digital readout

C. Care and maintenance

1. Periodic cleaning of external lenses
2. Use in inclement weather
3. Durability
4. Storage

- D. Safety and health considerations
  - 1. Classified as a class 1 device by the Food and Drug Administration
  - 2. Avoid direct eye exposure
  - 3. Low radiation

III Operation of specific L.A.S.E.R. devices

- A. Functional components of L.A.S.E.R. devices
- B. Field exercise
  - 1. Set-up
  - 2. Testing
  - 3. Operational procedures
  - 4. Hands-on training

IV Legal considerations and testifying in court

- A. California vehicle code
  - 1. 40802
  - 2. 40803

1. Other related sections

- A. Case law affecting speed measurement
  - 1. R.A.D.A.R.
  - 2. L.I.D.A.R.
- C. Courtroom testimony
  - 1. Preparation
  - 2. Considerations
  - 3. Evidence

1. Field notes

V Final examination

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