BLUEHALO

Laser Instrumented Diagnostic Suite (LIDS)

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Overview

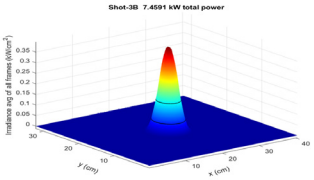
- Complete suite of HEL performance instrumentation and atmospheric characterization sensors
- Quick-look data available between shots, with complete test results available within 24 hours
- System fully integrated to 30' trailer for transport and repositioning on range
- Quickly diagnose HEL beam performance at relevant ranges prior to costly flight tests
- Test and correlate HEL performance through varying atmospheric conditions
- Multi-stage alignment concept allows wide range of test concept geometry

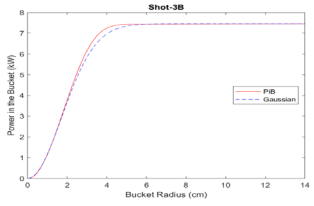
Atmospheric Measurement Specifications

- Meteorological measurements: Wind speed and direction, temperature, pressure, relative humidity, etc.
- Optical turbulence via MZA Delta Pro
- Aerosol concentration via Aerosol Devices MAGIC CPC
- Sensor data integrated to Laser Environmental Effects Definition and Reference (LEEDR) to report
  -Molecular absorption and scattering
  -Aerosol absorption and scattering
  -Total transmission percentage

Laser Measurement Specifications

- Laser power measurement up to 150 kW at 20 kW/cm2 using ball calorimeter.
- Spot sizes from 1-10cm 1/e2 diameter. 30cm clear area to allow for jitter/wander and aimpoint error.
- 1200x1024 beam irradiance profiles at 100fps. 0.29mm/pixel. 14bit pixel depth. Wavelength range 1040-1080nm
- Quick look data products:
  - Power vs. Time
  - 2D Irradiance vs. Time
- Post-test data products:
  -Power vs. Time
  -2D Irradiance vs. Time
  -Max Power
  -Power-in-the-bucket
  -Peak Beam Irradiance
  -Spot Size
  -Centroid and Centroid Drift
  -Jitter
  -Total Fluence





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