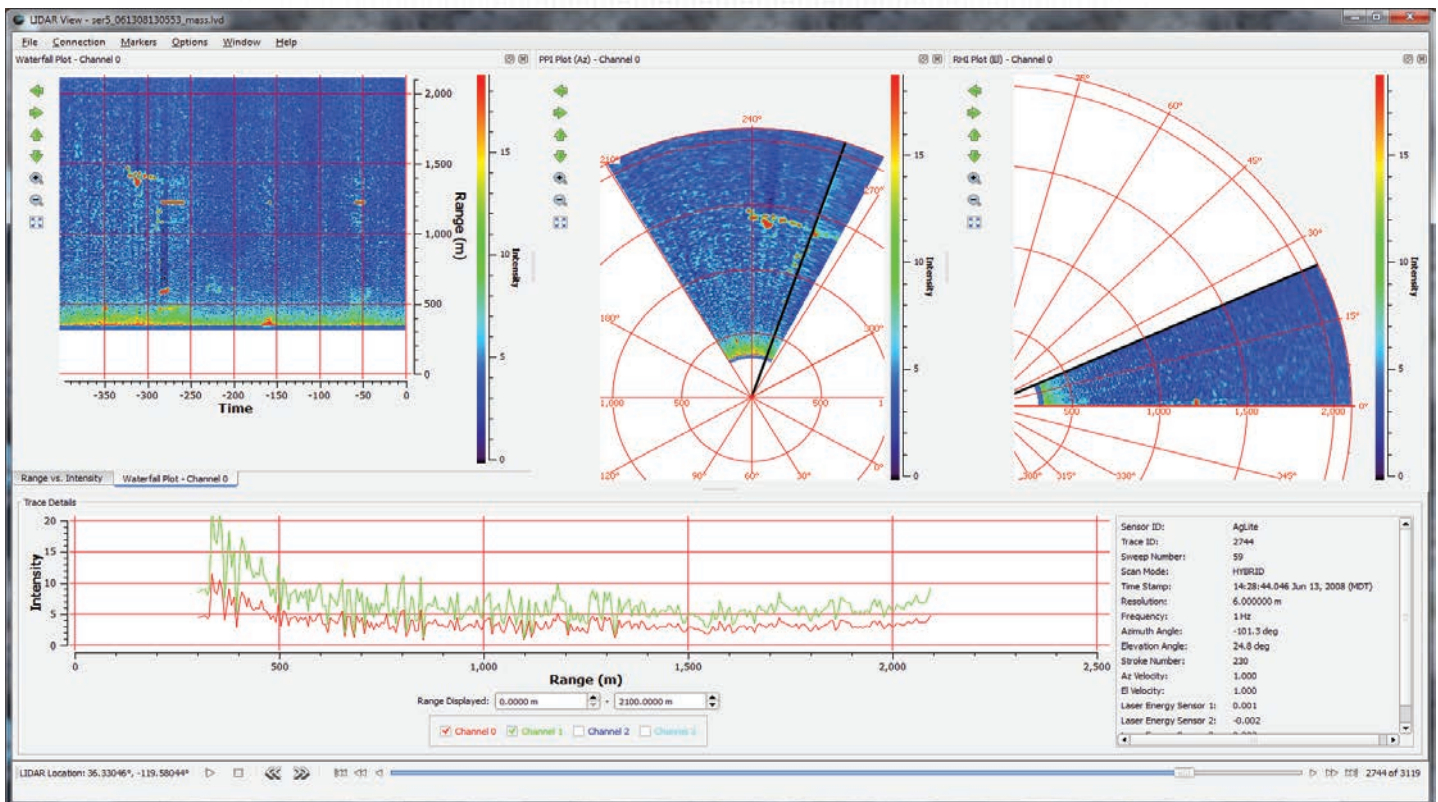# SPACE DYNAMICS LABORATORY

LIDARVIEW

PLATFORM-INDEPENDENT VISUALIZATION SOFTWARE FOR USE WITH ANY LIDAR SYSTEM

LidarView is a graphical display application for visualizing, archiving, and analyzing lidar data. LidarView is compatible with all current sensor systems. It consists of a non-proprietary library framework and a generic visualization tool that can be used with any third-party lidar sensor, hardware configuration, or data format. LidarView provides a variety of plots to accommodate different scenarios, including user-configurable and georectified displays. It enables remote viewing of data through a network connection, making it useful for live operations, test scenarios, and research applications.

The LidarView software can be easily extended to support new lidar systems through creation of a dynamically linked library (DLL) plug-in to translate the native sensor data.

FEATURES

- Real-time data capture
- Trace file import
- Near real-time graphical display via OpenGL
- Dockable plot windows
  - Waterfall
  - Range vs. intensity
  - Polar Plot Indicator (PPI)/horizontal scan
  - Range Height Indicator (RHI)/elevation scan
  - Sector scan displays
- User-configurable markers/labels
- Data pre-processing
- Optional networking with modest (3 Mbps) overhead
- Support for multiple simultaneous data channels/wavelengths
- Local data storage
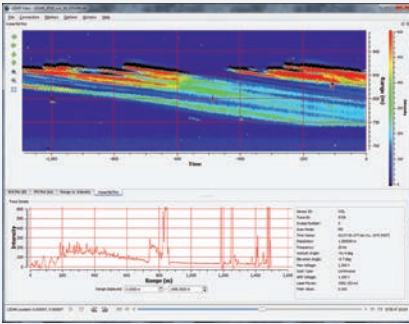- Ability to capture data stream to image/movie files

SDL's LidarView software can be used to display data from any lidar system

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LIDARVIEW

NON-SCANNING DISPLAYS

Waterfall Display
- False color concentration display
- User-defined markers for distance
- Primarily used in tunnel tests

POLAR PLOT INDICATOR OR RANGE HEIGHT INDICATOR
- Display of data from horizontal or vertical angle scans
- Georectified lidar data
- Range vs. azimuth angle (PPI)
- Range vs. elevation
  angle (RHI)
  - Lidar orientation
    is adjustable
  - Plot orientation is
    adjustable
- User-selectable
  color scheme
- User-defined
  intensity scale
- User-adjustable
  pan/zoom
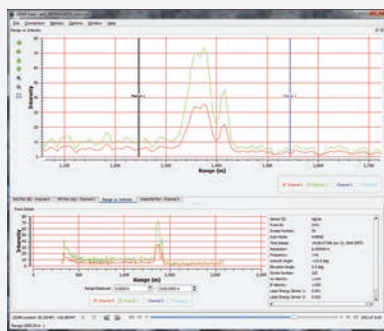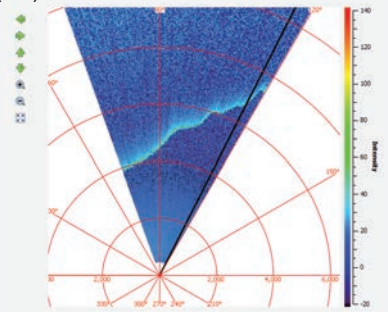
RANGE VS. INTENSITY
- Standard display of lidar waveforms
- Supports display of multiple simultaneous channels
- User-adjustable pan/zoom
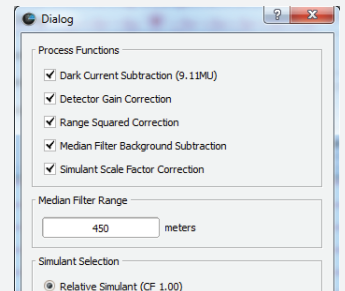- User-defined distance markers

DATA PRE-PROCESSING OPTIONS
Real-time Processing
- Data quick look
- Reduces data acquisition overhead

User-adjustable Parameters
- Median filter (50 m to 500 m)
  - Adjust according to cloud
    size
- Aerosol physical parameters
  - Rough concentration value
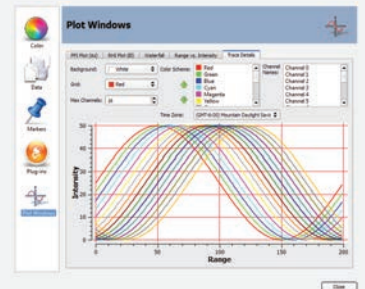   of aerosol clouds

SECTOR SCAN DISPLAYS
Point & Area Markers
- Right-click to place at cursor
- Edit markers to enter exact lat/lon
- Adjustable label, color,
  size, & icon
- Edit label descriptions

Support For Marker
Template Files
- Markers can be saved to
  or loaded from a file
- Locations are saved in
  lat/lon format
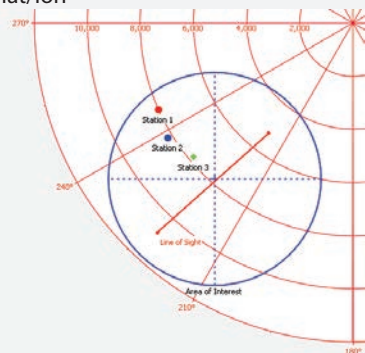
ADDITIONAL FEATURES
- Support for multiple simultaneous data channels
  - User-configurable
    maximum number
- Local data storage
  - Immediate replay of data
- Variable replay speeds (1
  to 200 Hz)
  - User-configurable
    maximum file size
- Exportable data plots
  - Static images (in
    user-selectable format)
  - Sector scan movies (file
    is generated from a
    series of static images)

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