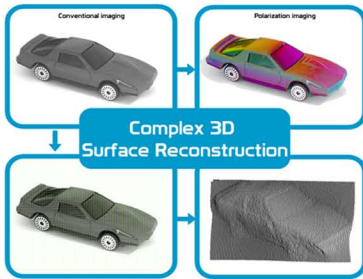
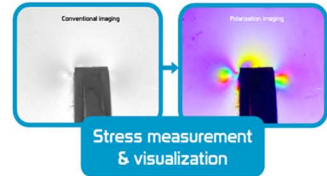


SALSA

FULL Stokes Polarization camera



PERFORMS:

Live full Stokes polarization imaging in the visible in passive or active configuration
Live computation of any derived polarization parameter: DOP, DOLP, DOCP, AOP, Ellipticity.
Passive and Active polarization imaging

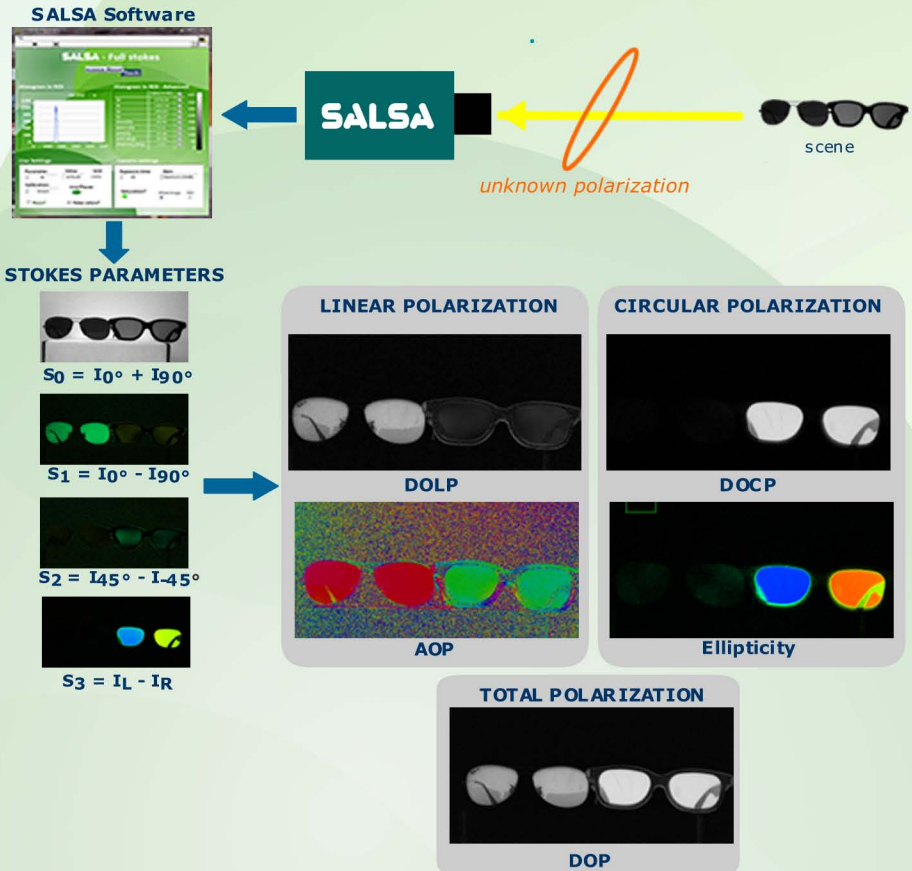
ENABLES:

Retardance mapping / Stress measurement
Stokes/Mueller imagery
Contrast enhancement
Target detection/identification

OVERVIEW

Along with the intensity and the spectrum, the polarization of light carries abundant information. The Stokes formalism allows for complete description of any partial or total polarization state. While most of the available polarization imaging cameras perform only linear Stokes polarization imaging (only the linear polarization can be quantified), SALSA performs live measurement of the full Stokes vector for each pixel of the image at a video frame rate. Many polarization-related parameters can be visualized in real time such as the Stokes parameters (S_0 , S_1 , S_2 , S_3), the Degree Of Polarization (Linear or Circular), the Angle Of Polarization, the Ellipticity angle, etc.

PRINCIPLE



This example shows two pairs of glasses.
Left ones are linearly polarized sunglasses;
right ones are circularly polarized 3D-movies glasses.

SOFTWARE

A user-friendly software allows a Full Stokes polarization analysis for each pixel of the image, in real time. The user can select a Region Of Interest and visualize all polarization data in live or in analysis mode, save images and record polarization movies.

SALSA - Full Stokes
Bossa Nova Tech

Histogram in ROI

Fps (Hz) 0

Histogram in ROI - Advanced

| | Value in ROI | | |
|-------------------|--------------|-------------------------------------|------|
| S0 | 1574.45 | <input checked="" type="checkbox"/> | 4095 |
| S1 | -1457.25 | <input checked="" type="checkbox"/> | 3500 |
| S2 | 472.87 | <input checked="" type="checkbox"/> | 3000 |
| S3 | 58.17 | <input checked="" type="checkbox"/> | 2500 |
| DOLP (%) | 97.49 | <input checked="" type="checkbox"/> | 2000 |
| DOCP (%) | 3.71 | <input checked="" type="checkbox"/> | 1500 |
| DOP (%) | 97.58 | <input checked="" type="checkbox"/> | 1000 |
| AOP (deg) | 80.98 | <input checked="" type="checkbox"/> | 500 |
| Ellipticity (deg) | 2.12 | <input checked="" type="checkbox"/> | 0 |

Live Settings

| Parameter | Value | Unit |
|-----------|---------|--------|
| S0 | 1574.45 | 12bits |

Calibration: Green
Live/Pause: Live / Pause
 Raws? False colors?

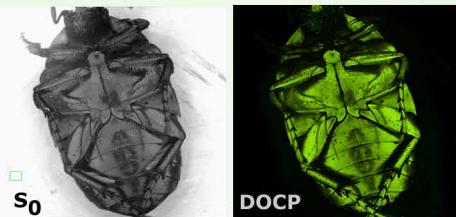
Camera settings

| Exposure time | Gain |
|---------------|---------------|
| 60 | Medium (10dB) |

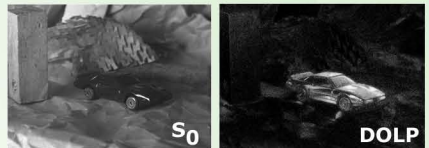
Saturation? Whole Image ROI

APPLICATIONS

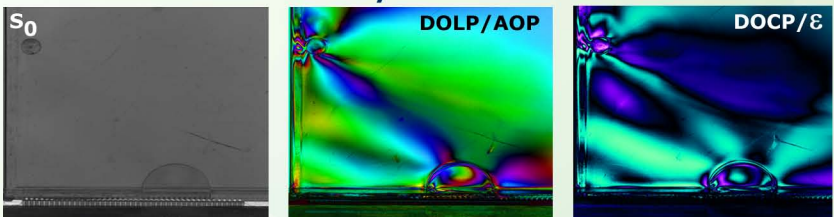
BIOLOGY



TARGET DETECTION



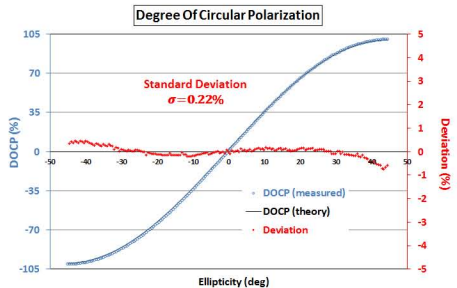
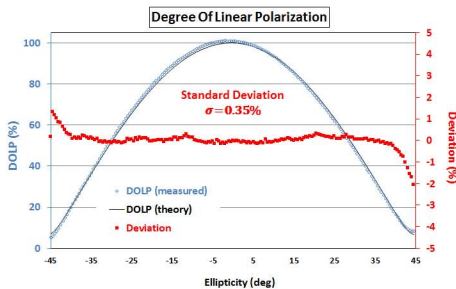
RETARDANCE/STRESS MAPPING



GENERAL SPECIFICATIONS

| | |
|----------------------------------|--------------------------------------|
| Camera Size | 3.2"x3.2"x4" (80mmx80mmx100mm) |
| Video Format | Digital GigE |
| Resolution (pixels) | 1,040x1,040 |
| Frame Rate at maximum resolution | 12 fps (12bits) 20 fps (8 bits) |
| Digitalization | 8/12 bits |
| Sync. Interface | USB |
| Spectral Bandwidth | 520nm-550 nm - Custom upon request |
| Calibration | Factory calibrated |
| Lens Mount | C-mount (25mm lens included) |
| Software | SALSA 2.3 |
| Computer | Standard PC with windows 7 + monitor |

The SALSA camera is calibrated in the factory for a specific bandwidth. The typical precisions for Degree Of Linear Polarization is 3% (P-V), 0.35% STDV, and for Degree Of Circular Polarization: 2% (P-V), 0.75% STDV.



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