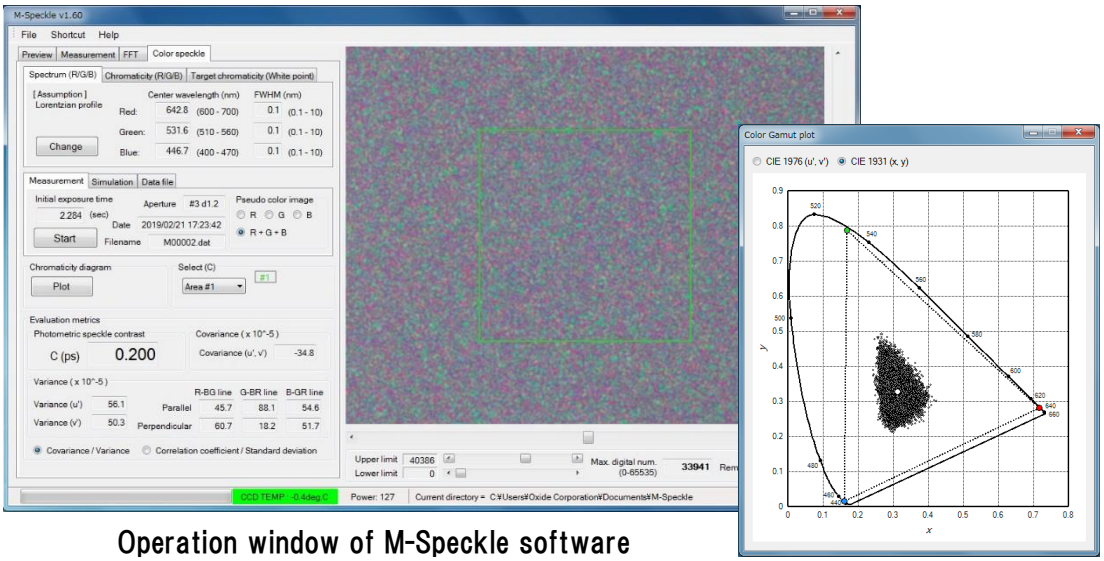
NEW

Color Speckle Measurement & Analysis

Dr. SPECKLE Series Optional Software

SM01VS09

SM01VS11



Operation window of M-Speckle software

We have launched brand-new color speckle measurement technology!
Speckle noise of white screen on laser displays can be measured.

Features

- Compliant with the international standard IEC 62905-5-4(Optical measuring method of color speckle) released in January 2018
- Optional software of M-Speckle measurement software for Dr. SPECKLE series (Require color filter wheel control option)
- 3 operation modes of “measurement”, “simulation” and “analysis”
- Color speckle distribution output on the chromaticity diagram
- Calculate evaluation metrics (variance/covariance of chromaticity coordinates, photometric speckle contrast) of color speckle distribution
- Speckle pattern images can be displayed in pseudo-color.

Compliant with IEC 62906-5-4 (Measuring method) standard

THE LASER SOCIETY OF JAPAN
LASER INDUSTRY CONTRIBUTION AWARD 2015
レーザー学会産業賞 貢献賞
Laser Industry Contribution Award

13th New JSPMI Prize
(The Director-General’s Prize)

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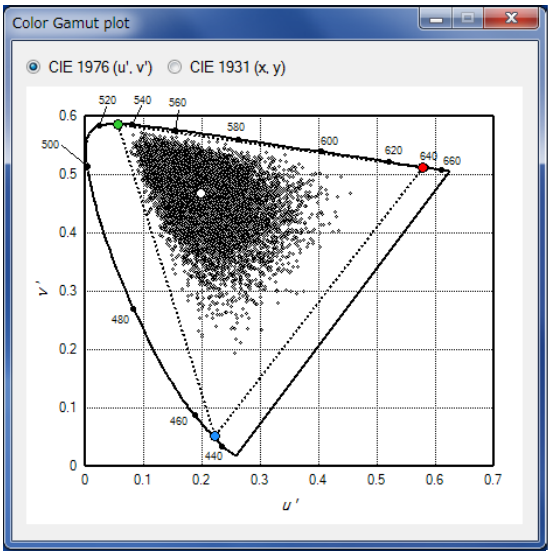
Operation mode

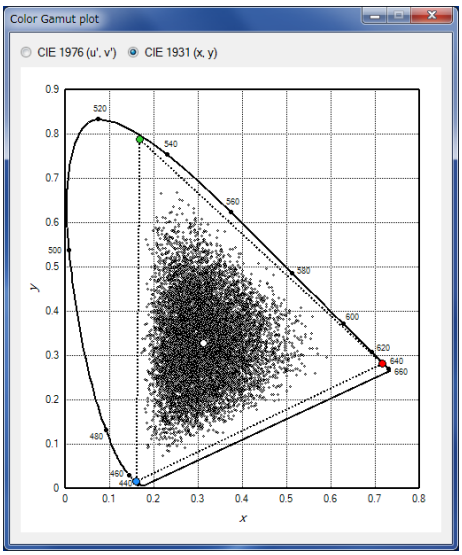
- Measurement mode : Automatic red / green / blue speckle image capturing with filter wheel control option.
- Simulation mode : Simulate color speckle distribution from the values of red / green / blue speckle contrast.
- Analysis mode : Recalculate color speckle distribution by loading saved data of measurement mode.

Graph drawing

Two types of diagrams are selectable ＊Below are the case of $C_R = C_G = C_B = 0.5$.



CIE 1976 color system (u', v')



CIE 1931 color system (x , y)

Evaluation metrics of color speckle distribution

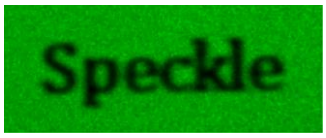
- Covariance $\mu_{u'v'}$, variance $\sigma_{u'}^2$, $\sigma_{v'}^2$ and variance in a parallel or perpendicular direction to the line passing the light source point and the target chromaticity point in the CIE 1976 chromaticity diagram (u', v').
- Photometric speckle contrast is $C_{ps} = \sigma_Y / \langle Y \rangle$, where Y is the tristimulus value.

Pseudo-color view of speckle pattern image

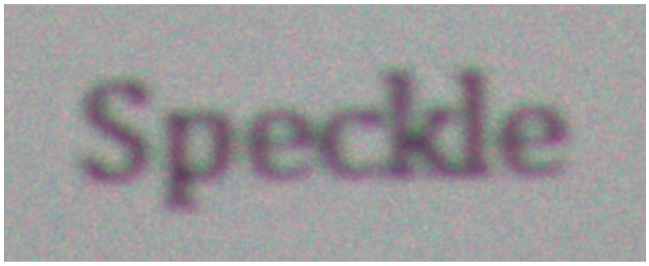
Each Red / Green / Blue speckle pattern image can be displayed in pseudo-color. Combined RGB image display in pseudo-color is also possible.

Captured image with red filter

Captured image with green filter



Captured image with blue filter



RGB Combined
(Pseudo-color display)

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＊ The contents are things of 12-September-2019.