

ColorToolVinhTrinh

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Source & Setup

<https://github.com/vinhtrinhvt/ColorToolVT2024>

ColorToolVT2024 Public

main 0 Tags

Go to file Add file Code

vinhtrinhvt Merge branch 'main' of https://github.com/vinhtrinhvt/ColorToolVT2024 403597a · 12 hours ago 12 Commits

1_ExampleFormat_Input1.xlsx	update	20 hours ago
2_ExampleFormat_Input2.txt	Add files via upload	20 hours ago
About.txt	updates	20 hours ago
CopyRight.txt	updates	20 hours ago
Helps.txt	updates	20 hours ago
LICENSE	Initial commit	20 hours ago
ManualColorToolALSUVV.pdf	Add files via upload	20 hours ago
PW-VinhTrinh2024.txt	Add files via upload	20 hours ago
README.md	Update README.md	20 hours ago
Requirements.txt	updates	20 hours ago
SetupOfColorToolVinhTrinh.exe	update	12 hours ago
desktop.ini	SetupFile	20 hours ago

format of Input

setup

About

It is to calculate/analysis/optimize all of color quality, light quality and relevant things of light sources, images, cameras and color sensors

Readme MIT license Activity 1 star 1 watching 0 forks

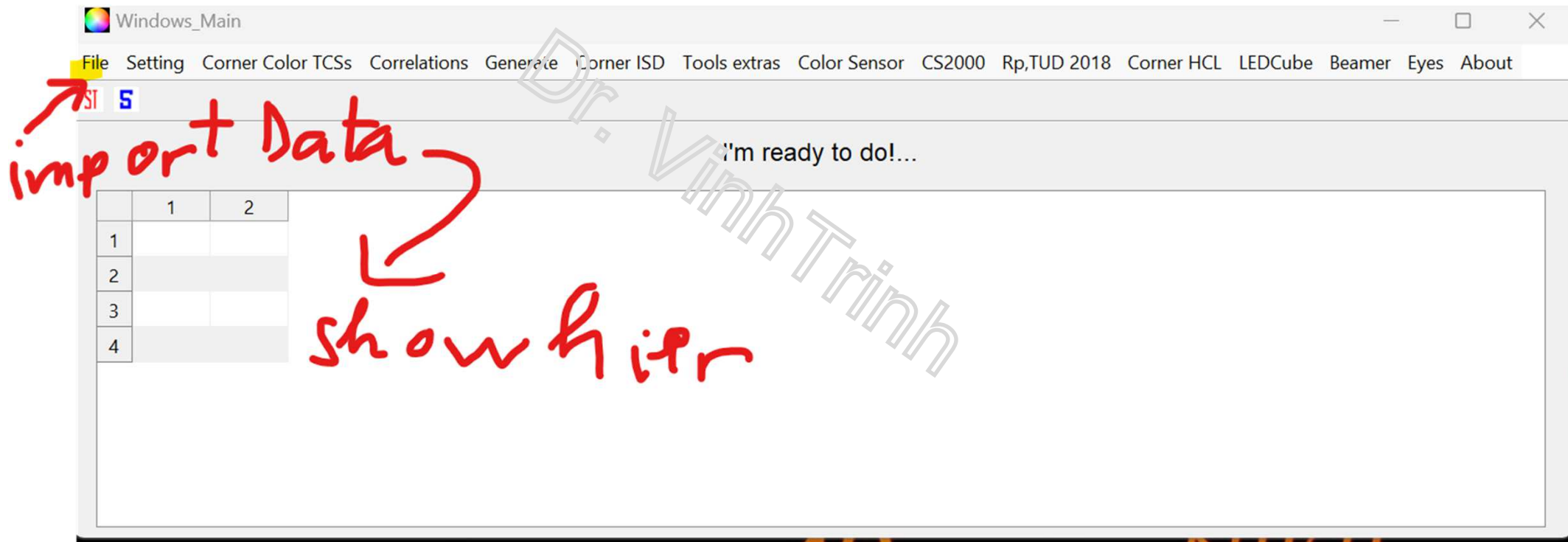
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Interface after Setup



Helps and working scope

There are 11 items in the structure of this software including:

1-File	2-Setting	3-Corner Color TCSs
4-Correlations	5-Generate	6-Corner ISD
7-Tools extra	8-Color Sensor	9-Corner CS2000
10-Corner Rp,TUD 2018	11-Corner HCL	12- About
13-Stop urgently (ST).		

A) Simple modes: "About" and "Format 4 input Data" are simple items so that users can understand information about this software, version, author and the format of input data including txt and xls file.

B) Basic modes:

- 1- "Setting 4 IES" in "Setting" is to give setting of the calculation of IES-TM30-15.
- 2- "Other Parameters" in "Setting" to set other parameters for Color memory.
- 3- "Draw Option" in "Setting" is control the drawing.
- 4- "Corner ISD" is to process ISD file and make them into available xls files for further uses.

C) Main Modes:

- 1- Calculating Color in the "File" is to calculate all about color quality and light quality.
- 2- "Corner Color TCSs" is to process everything concerning to test color samples.
- 3- "Correlations" is to find the correlations between color metrics with the format that this software has given.
- 4- "Generate" is to generate the spectra about semiconductor LEDs, pc-LEDs and the standard spectra.
- 5- "Color Sensor" is to matrizieren wiht color sensors.
- 6- "Corner CS2000" is to connect and measure with Camera CS2000.
- 7- "Corner Rp,TUD 2018" is to calculate and synthesize for the model color preferences of TU Darmstadt.
- 8- "Corner HCL" is to calculate and synthesize for the model HCLs.

D) The most important mode: Calculating Color in the "File" is frequently used so that all color metrics can be calculated from the input data.

E) The additional item "Tools extra" is added on 20.10.2016. This item is used to help you in converting from n-nm-spectra into 1-nm-spectra and inversely. It will be developed further for more tools such as the addition, substraction, dividition and multiplition of spectra or determination of reflectance spectrum of colors.

F) "Stop urgently" with the red text "ST" is to stop timer in the case of long term measurements and others.

Vinh will write this continuously.

To understand total concepts, please aks Vinh.
Password: VinhTrinh2024

Gernal First Actions

1

Windows_Main

File Setting Corner Color TCSs Correlation

Open Lightsources

Open Lightsources & Illuminance

Calculation

Back Spectrum

Save Table (only

Save Data (Qual

Force_Mode: "Fo

Stop urgently

Optimization on

All Menalopsin M

Build BioLight Ge

Force to Keep Se

Draw imported

2

Import DATA (ex.Spectra...etc) in txt or excel (sheetname=Quality) with the corre

< > v ^ « Wind... > Color... > v ↻ Color

Organisieren ▾ Neuer Ordner

ColorToolVT2024

SetupColorTool

SourceColorToolALSVV

Name

StuffToLoad

1_ExampleFormat_Input1

3

Windows_Main

File Setting Corner Color TCSs Correlations Generate Corner ISD Tools extras Color Sensor C

5

Importing is done!...

	1_Glühlampe	4_LL_KW	10_Tageslicht_1
380	0.0029	0.0028	0.0354
381	0.0031	0.0029	0.0367
382	0.0033	0.0031	0.0358
383	0.0035	0.0031	0.0364
384	0.0037	0.0031	0.0412
385	0.0040	0.0032	0.0482
386	0.0042	0.0033	0.0542
387	0.0044	0.0033	0.0582
388	0.0047	0.0035	0.0649

4

Windows_Main

File Setting Corner Color TCSs Correlations Generate

SI

Draw Option >

Setting 4 IES >

other Parameters >

Automatic Save

Fig - No save

✓ Fig & Save

No Fig - Save

✓ Hiden your figs Strg+H

380	0.0029	0.0028	0.0354
381	0.0031	0.0029	0.0367
382	0.0033	0.0031	0.0358

Example 1 for importing & Cal. All of Color & Other Aspects of Spectra

1

Windows_Main

File Setting Corner Color TCSs Correlations Generate Corner ISD Tools extras Color Sense

Open Lightsources

Open Lightsources & Illuminance

Calculation

Back Spectrum Inputs

Save Table (only)

Save Data (Quality)

Force_Mode: "For-Each"

Stop urgently

Optimization on Demand (amel-CS)

All Menalopsin M. Rea

Build BioLight General

Force to Keep Setting

Draw imported Spectra

1-Only Basics & BioPlant Parameters

2-Basics & CIE CRI

3-Basics & CQS

4-Basics & CIE 2012

5-Basics & FCI

6-Basics & MCRI

7-Basics & IES TM-30-15

8-Basics & MCPI

9-Basics & (HCL,Healthy,Lightness)

10-Basics, CQS & PB's Models

11-Rp,TUD

12a-All, No Rp,TUD & Eye-Models & MI-Daylight

5

Save Data

ColorToolVinhTrinh durchsc...

Organisieren Neuer Ordner

SetupColorTool

SourceColorToolALSV

MATLAB Drive

Published

Dieser PC

Windows (C:)

Lokaler Datenträger (D:)

Dateiname: 05-Oct-2024-08-52-36-1-ExampleFormat-Input1.xlsx

Dateityp: Excel file (*.xlsx)

Speichern Abbrechen

2

Enter y...

Grade(2=2°,10=10°,2015=15.10°)

ObserverGroup(Global,German,Chinese)

Globe

LightingScenario(metameric,multiCCT)

multiCCT

Illuminance in lux,ex:500 or 500 750 ..etc)

500

t_CS22 in h

1

f_CS22 0.5,1,1.5,2

1

t_Gimenez_Minute, ex:60, 120..

60

digital_01_pupil_dilation (0 or 1)

0

OK Cancel

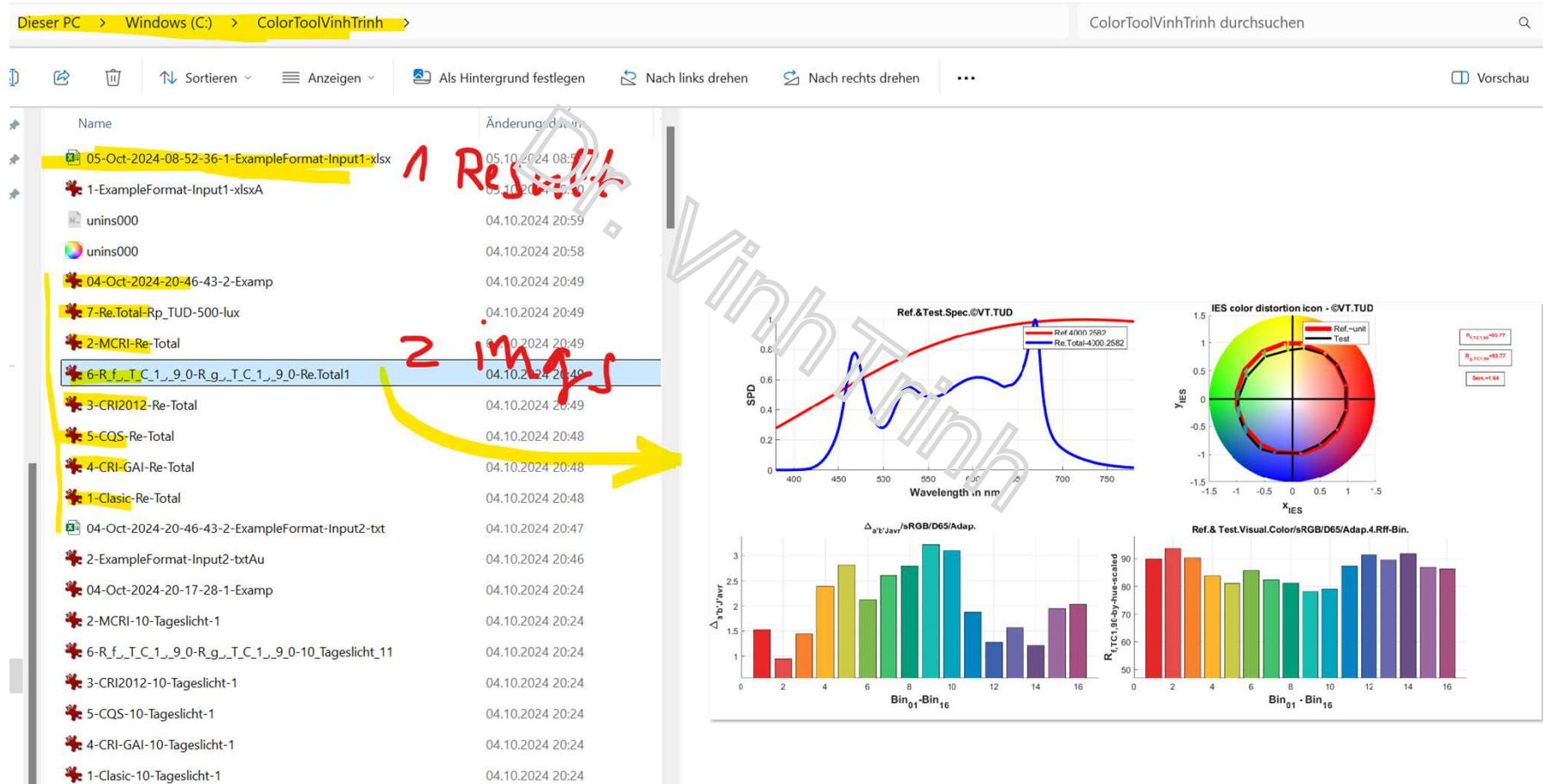
3

All of them done!

	1.Gluhlampe14.1L_KW_10_Tageslicht_1
x	0.48500.3447 0.3229
y	0.41830.3762 0.3468
z	0.09670.2792 0.3303
X	115.9567 91.6... 93.1147
Y	100 100 100.0000
Z	23.1290 74.2... 95.2616
u	0.27520.2020 0.1982
v	0.35600.3307 0.3193
u'	0.27520.2020 0.1982
v'	0.53400.4961 0.4790
CCT in K	2.4388... 5.08... 5.9190e+...
Duv	0.00120.0120 0.0072
Duv'	0.00180.0153 0.0088
Luminance in lux(CS45),Cd/m2(CS2000)	2.0990... 1.05... 6.4277e+...
LEF in lm/W	135.3828 310... 220.4051
mpF in lm/m²	137.3476 479... 396.2770
PF in Microrol/s/m	0.02150.0142 0.0175
a-low-grade paper in mW/(m²)	0.00120.0040 0.0060
b-rag paper in mW/(m²)	0.13890.2101 0.2732
c-oil paints on canvas in mW/(m²)	0.18130.2541 0.3289
d-tactile in mW/(m²)	0.27500.3406 0.4387

Example 1 for importing & Cal. All of Color & Other Aspects of Spectra

6



Example 2 for importing & Cal. All of Color & only Healthy Pars.

1

2

3

Calc CS2010,2018,CS2020,CS2021,Lucas done!

	1_Glühlampe 4_LL_KW	10_Tageslicht_1
Illuminance in lux	500	500
CS_MRea_2010	0.47190.5024	0.5657
S2P	1.17811.9373	2.3762
alfa_2010	0.31280.6299	0.8217
CL_2010	279.6421 634....	900.1463
CLA_2010	397.8406 489....	790.0395
amel	0.35620.6518	0.8598
KmelD65	755.3782 755....	755.3782
CS_2018	386.0351 426....	663.3925
CS_2018	0.36580.3848	0.4657
CS_2018	196.9633 360....	475.4568
[2013/Lucas] S_cone photopsin	96.6823 351....	447.9090
[2013/Lucas] M_cone photopsin	392.7100 477....	512.4771
[2013/Lucas] L_cone photopsin	504.8887 477....	494.1697
[2013/Lucas] Rod_opsin	271.6261 440....	524.5354
[2013/Lucas] Melanopic_Melanopsin	215.0297 396....	524.7663
Exposed Time in h	1	1
CLA_2020	386.0351 426....	663.3925
CS_2020_EQ1(q=411.3,r=-0.885)	0.33780.3569	0.4402
CS_2020_EQ2(q=355.7,r=-1)	0.36580.3848	0.4657
Spatial distribution	1	1
CLA_2021	313.1386 496....	664.8127
CS_2021	0.32540.4136	0.4661
MDER	0.38960.7186	0.9506
MEDI in lx	194.7777 359....	475.2860
Sups_Gim in %	44.8356 50.7...	53.3717
pupil_dilation	0	0

Thank You!!!