

UCLA Research Workshop Series Summer 2020

Affinity Photo & digiKam

Anthony Caldwell

What is Affinity Photo?

Wikipedia:

Affinity Photo is a raster graphics editor

Serif:

If you could create your own photo editing software, it would work like this.

What is digiKam?

Wikipedia:

digikam is a free and open-source image organizer
and tag editor

digiKam:

digiKam is an advanced open-source digital photo management application that provides a comprehensive set of tools for importing, managing, editing, and sharing photos and raw files.

Color

Color Space

Wikipedia:

A color space is a specific organization of colors. In combination with physical device profiling, it allows for reproducible representations of color, in both analog and digital representations.

Color depth

The human eye can distinguish around a million colors

Color depth

1-bit color 2 colors

2-bit color 4 colors

3-bit color 8 colors

4-bit color 16 colors

5-bit color 32 colors

8-bit color 256 colors

12-bit color 4096 colors

High color (15/16-bit) 32,768 colors or 65,536 colors

True color (24-bit) 16,777,216 colors

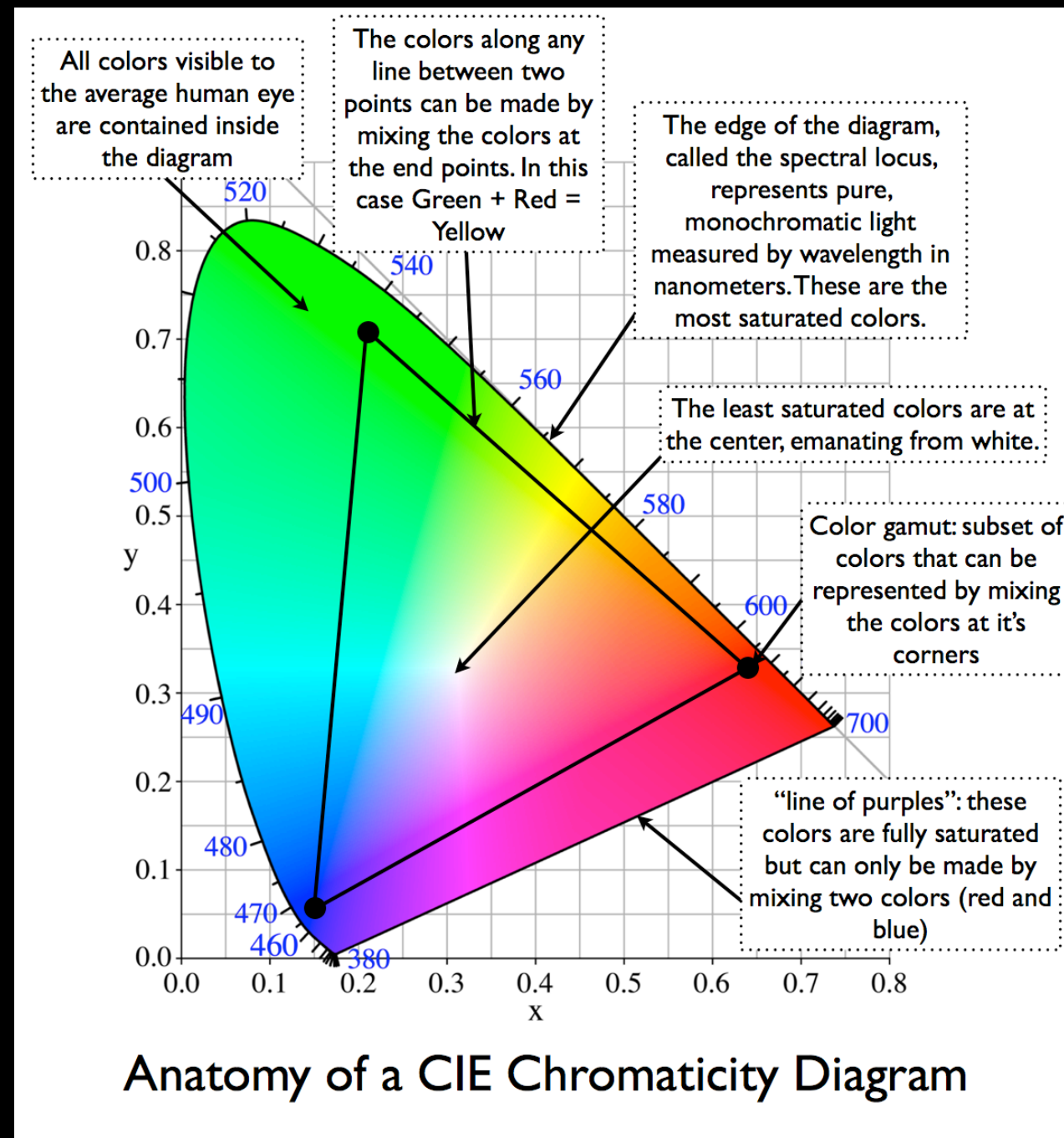
Deep color (30-bit) 1.073 billion

36-bit approximately 68.71 billion colors

48-bit approximately 281.5 trillion colors

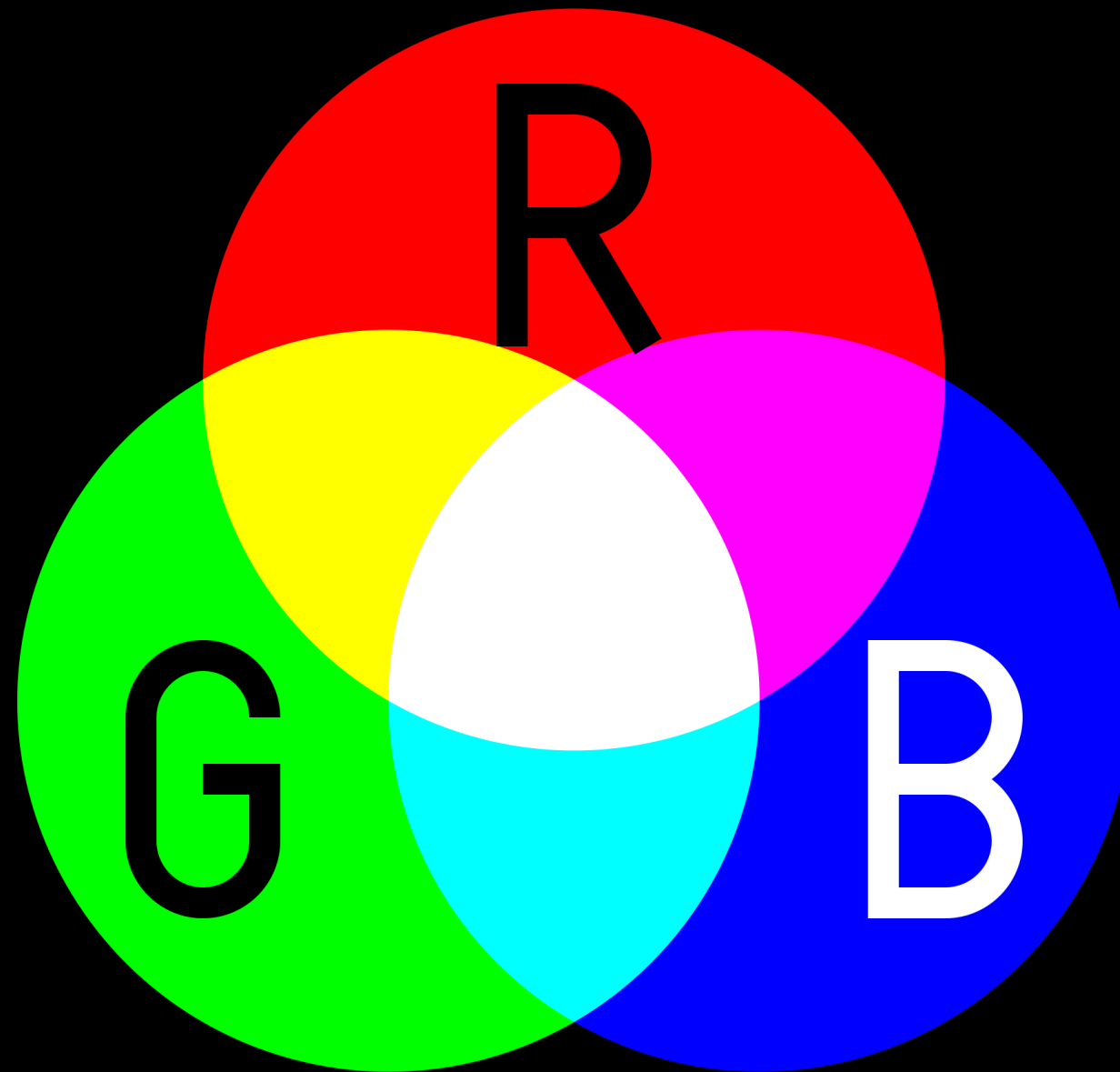
Note: different configurations of software and hardware can produce different color values for each bit depth listed

Color Space



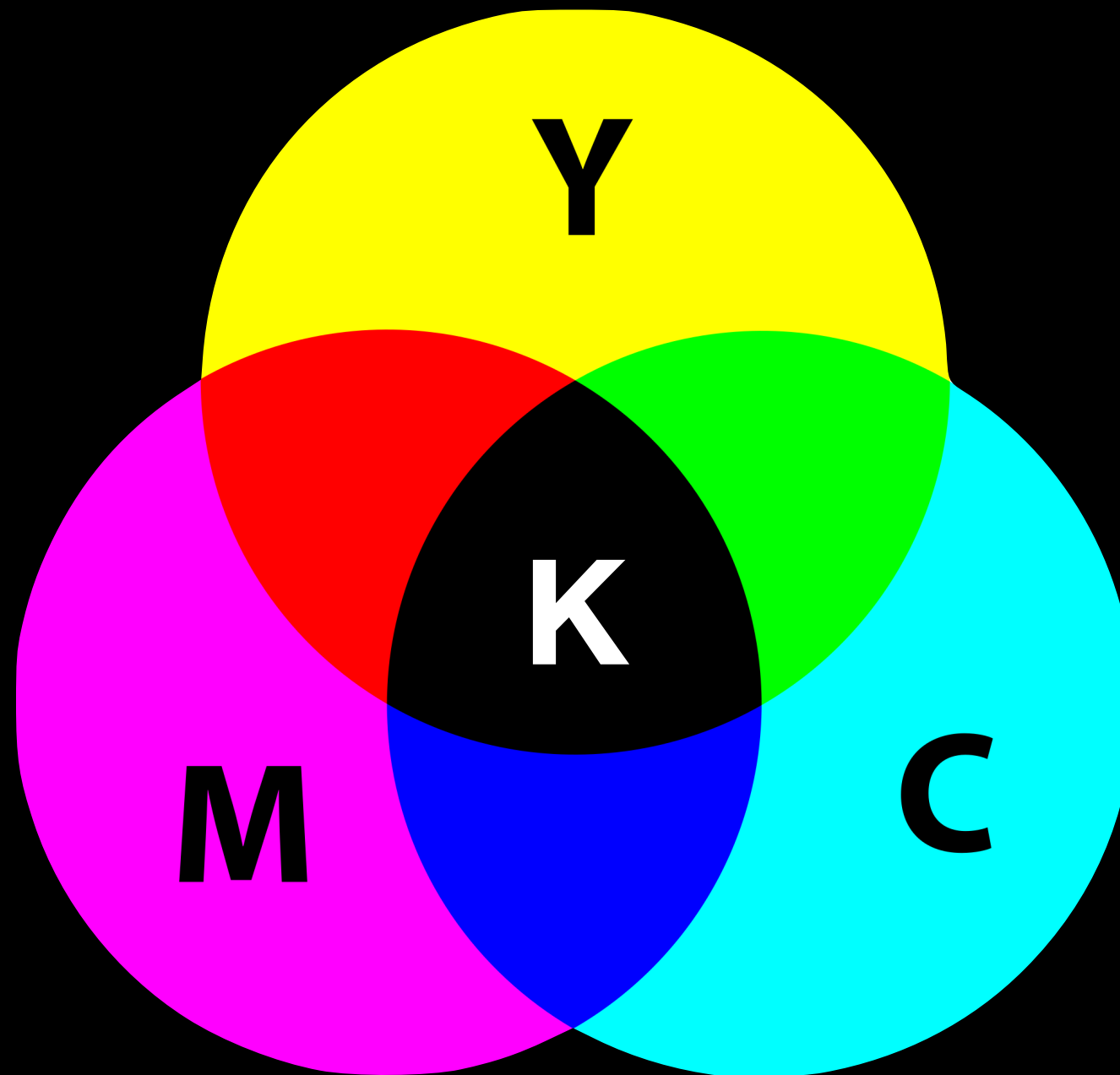
Commission internationale de l'éclairage 1931 color space

Color Space



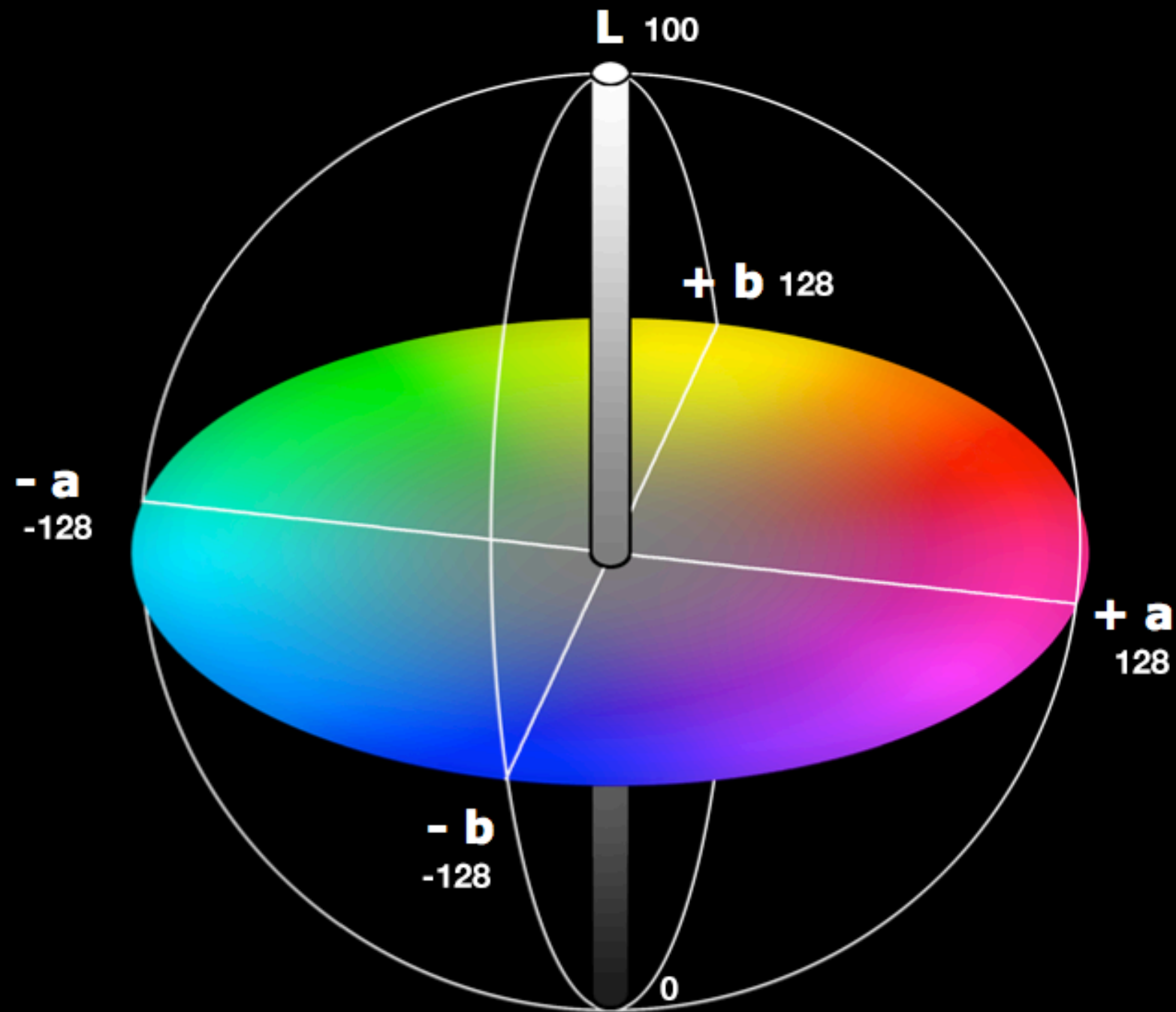
Additive color mixing

Color Space



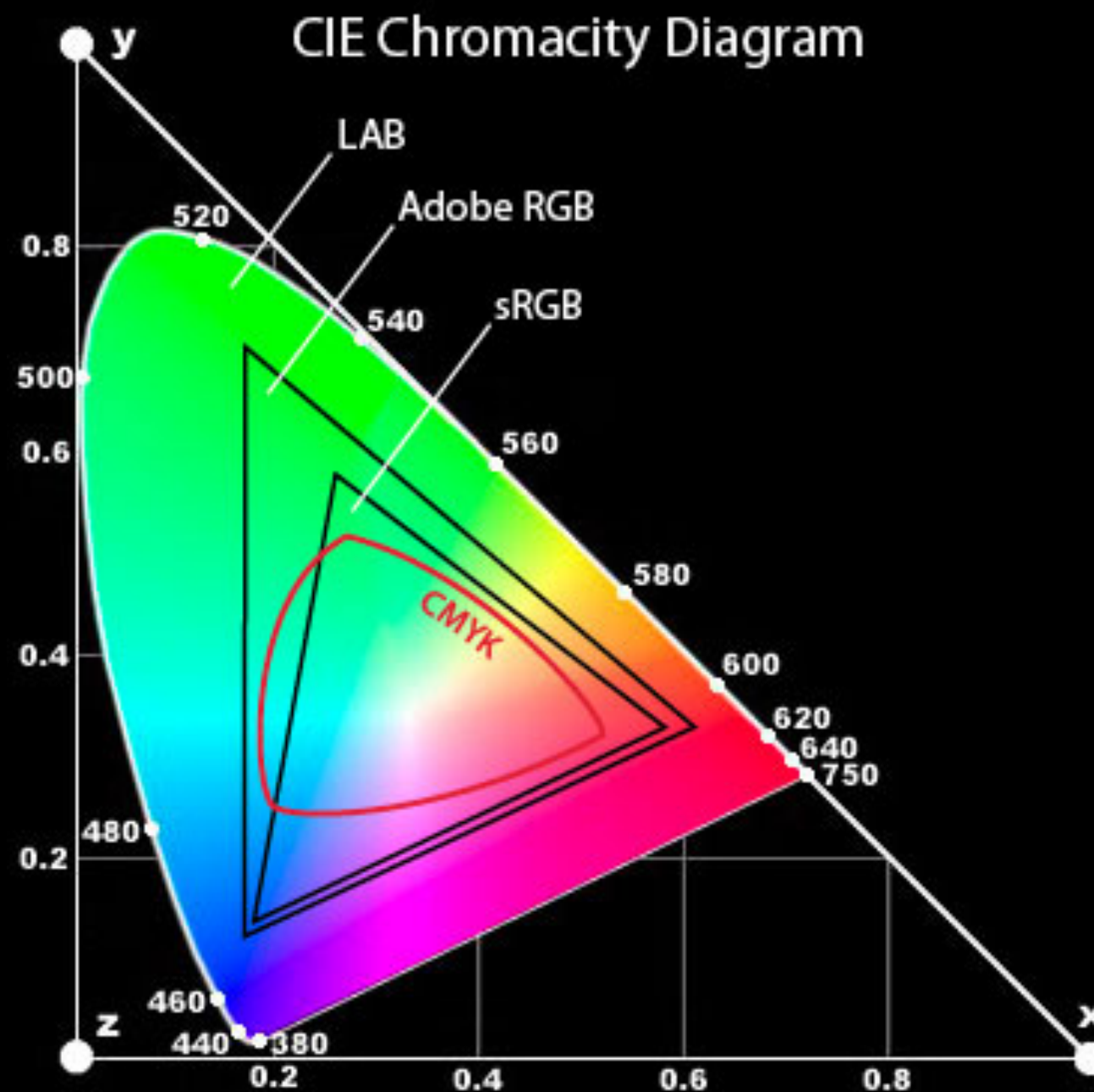
Subtractive color mixing

Color Space



The Lab Color Space

Color Space



Color Space Comparison

Affinity Photo and digiKam...

Questions?

Anthony Caldwell

UCLA Digital Research Consortium

Scholarly Innovation Labs

11630L Charles E. Young Research Library

sil@ucla.edu

▼ Affinity Photo-digiKam

▼ Affinity Photo-Tutorials

▼ Adjustment Layers

- Black & white adjustment
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/330727632/>
- Blend ranges
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/342752528/>
- Curves
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/309468095/>
- Levels
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/316753313/>
- White balance
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/319494162/>

▼ Channels

- Channel mixer
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/334281212/>
- Channels
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/334256548/>
- Channels: Selections
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/334283412/>

▼ Color

- Color management
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/332654440/>
- Color picker tool
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/311178534/>
- Infer LUT
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/347739867/>
- LAB
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/310551180/>
- OpenColorIO setup
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/297059572/>
- Selecting sampled colours
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/393668524/>
- Selective colour
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/365012208/>

▼ Customizing

- Adding lens profiles
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/330446061/>
- Macros
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/309301203/>
- Using plugins
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/393655120/>

▼ Editing

- Canvas resizing
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/342751743/>
- Clone brush tool
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/331957237/>
- Cropping
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/366751817/>
- Editing infrared photography
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/310318739/>
- Moving, scaling and rotating
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/296863094/>
- Paste / move inside
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/318783150/>
- Resizing & resampling
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/309876656/>
- Straightening
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/366761378/>
- Undo, redo and history
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/310764514/>

▼ Effects

- Applying Blender Filmic Looks
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/441014543/>
- Bitmap pattern fills
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/392237161/>
- Clarity
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/334269447/>
- Gradient map
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/332662533/>
- Gradient tool
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/296616219/>

- Liquify
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/295557805/>
- Paint mixer brush
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/328638038/>
- Zoom blur
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/364785070/>

▼ Filters

- Displace filter
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/309468388/>
- Filters
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/310553661/>
- Radial blur
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/332645887/>

▼ HDR

- HDR from one exposure
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/341759551/>
- HDR ghosts removal
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/331172337/>
- HDR merging
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/310332886/>

▼ Layers

- Advanced layer options
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/331996190/>
- Blend modes
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/310319088/>
- Fill layers
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/332646026/>
- Isolating layers
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/329304171/>
- Layers
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/311178905/>
- Live filter layers
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/311405882/>
- Lock children (Masking)
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/365275371/>
- Luminosity masks from layers
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/317427603/>

- Mask layers
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/332168517/>
- Masking adjustment layers
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/310549897/>
- Masking vs clipping layers
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/318402519/>
- Pixel vs Image layers
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/365012457/>
- Selecting layers
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/310764355/>

▼ New/Import/Export

- Compression efficiency
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/333760172/>
- Exporting
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/296606841/>
- Exporting slices
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/337977237/>
- New document with templates
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/393660277/>
- Open and save
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/297059841/>
- Placing images
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/296853556/>
- PSD smart object import
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/393648146/>
- PSD write-back and PSB import
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/393181188/>

▼ Pen/Brush

- Dodge, Burn and Sponge brush tools
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/301196403/>
- Pen tool
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/364785550/>

▼ RAW

- RAW advanced development
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/331997853/>
- RAW development
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/331997643/>

▼ Selections

- Affinity Photo - Selection Brush Tool
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/395758883/>
- Selection refinement
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/334273469/>

▼ Stacking

- Focus merging
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/295557891/>
- Stacking: Exposure blending
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/334256485/>
- Stacking: Noise reduction
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/334273386/>
- Stacking: Object removal
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/295557964/>

▼ Techniques

- 360 live editing
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/301190383/>
- Affinity Photo - Retouching scanned line drawings
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/397979384/>
- Editing metadata
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/393664364/>
- Haze removal
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/301190699/>
- Inpainting tool
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/297061442/>
- Manual lens corrections
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/392420787/>
- Noise reduction
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/333760397/>
- Panoramas
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/332168133/>
- Procedural Texture - Nonlinear Transform Correction
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/392236092/>
- Relighting 3D renders
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/310539608/>
- Shadows/highlights
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/309469021/>

- Sky replacement
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/332653469/>
- Using Matte ID render passes for masking
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/365275093/>

▼ UI

- Brush modifier (keyboard & mouse)
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/392453198/>
- Light UI
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/334280885/>
- Metal compute
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/342249763/>
- Tool cycling
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/392450588/>
- UI overview
<https://affinity.serif.com/en-us/tutorials/photo/desktop/video/295557614/>

▼ digiKam Tutorials

- Documentation and Useful Resources
<https://www.digikam.org/documentation/>
- Geotagging Photos in digiKam
<https://youtu.be/mVgLWcRqfL4>
- The Power of digiKam
<https://youtu.be/uHdCTaebgxs>