A limitation of the imaging model employed in conventional radiometric calibration methods when dealing with pixels with high color saturation levels. In particular, conventional radiometric models cannot explain the color mapping component which includes gamut mapping

GAMUT MAPPING important

Gamma correction

To detect colors in images, the first thing you need to do is define the *upper* and *lower* limits for your pixel values.

LAB color spa

<http://www.comp.nus.edu.sg/~brown/CVPR2016_Brown.html>

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We have known RGB vectors for the training data (from the name of the colors in the color palette) : digital vector representation

Linear combination of the surrounding palettes to create the central color

aC1 + bC2 +cC3

if we multiply the light by 2 then every color is basically multiplied by 2

look up table

No HSV, rgb is linearly dependent on light  
  
Just take the 3 referene colors, c1,c2 ,c3 , put them in matrix

Check pseudo inverse in matlab/opencv

Linearity of light

**REDS**

Taffy Twist: rgb(241,195,191)

Minstrel Rose: rgb(200, 149, 152);

Heart Breaker: rgb(204, 118, 164);

Glitterati: rgb(147, 74, 100);

Kiss and tell: rgb(216, 102, 116);

Pinkadelic: rgb(203, 92, 92);

No more drama: rgb(163,63,65)

Dark Crimson: rgb(133,60,65)

Sugar Poppy: rgb(229,129,130)

Top Tomato: rgb(208,72,56)

Flirt Alert: rgb(190,59,56)

Cherry Cola: rgb(117,67,66)

**YELLOWS**

Meringue: rgb(255,240,193)

Upbeat: rgb(255,277,136)

Fuzzy Duckling: rgb(255,201,103)

Glazed Pears: rgb(205,153,87)

Frittata: rgb(254,234,201)

Corn Stalk: rgb(251,219,167)

Garbanzo: rgb(238,198,134)

Squash Bisque: rgb(231,176,125)

Sour Tarts: rgb(254,229,201)

Golden Nectar: rgb(255,227,183)

Harmonious Gold: rgb(233,207,164)

Fresh Croissant: rgb(233,207,119)

**PURPLES**

Foxglove: rgb(193, 193, 217);

Lilac: rgb(167, 163, 178);

Vintage Ribbon: rgb(144, 151, 181);

Iris: rgb(94, 95, 127);

Confetti: rgb(203, 187, 223);

Jazz: rgb(135, 129, 156);

Romantic Moment: rgb(143, 118, 175);

Fairytale: rgb(107, 93, 152);

Standing Ovation: rgb(191, 184, 190);

Plum: rgb(157, 130, 147);

Chakra: rgb(139, 93, 143);

Blackberry jam: rgb(111, 95, 113);

**BLUES**

Beachside Drive: rgb(171, 219, 221);

Peaceful Blue: rgb(154, 182, 193);

Rushing Stream: rgb(99, 194, 215);

BluePrint: rgb(95, 129, 143);

Charismatic Sky: rgb(154, 193, 221);

Yacht: rgb(102, 155, 180);

Perfect Sky: rgb(68, 150, 208);

Cobalt: rgb(19, 106, 156);

Loyal: rgb(210, 225, 241);

Thundercloud: rgb(112, 134, 158);

Tanzanite: rgb(59, 75, 127);

Dark Navy: rgb(64, 73, 91);

**GREENS**

Wasabi: rgb(208, 205, 149);

Camouflage: rgb(170, 167, 149);

Artichoke: rgb(178, 177, 126);

Secret Meadow: rgb(114, 117, 79);

Praying Mantis: rgb(226, 234, 205);

Grove: rgb(149, 167, 131);

Sun Valley: rgb(105, 133, 57);

Trailing Vine: rgb(89, 105, 82);

Mist: rgb(183, 209, 209);

Rain Water: rgb(135, 217, 211);

Tropics: rgb(0, 155, 143);

Meterological: rgb(89, 109, 106);

ALL value taken from http://www.behr.com/consumer/colors/paint#