

## **Modeling Color Appearance**

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The domain of color appearance models has been dominated by the Munsell Color System for over 100 years. A variety of attempts have been made to supplant it but it has been resilient to these efforts because of its simplicity and its accuracy as a model for how humans perceive the relationships between colors of different Hue, Saturation and Lightness. It has also been one of the most studied and validated models of color appearance as evidenced by one of the largest psychophysical studies ever attempted. The relationship of the Munsell color appearance space to physical measurements of the power/energy distribution of luminous reflectance across the range of normal human color vision is by no means simple. There are many known effects in color vision that should be accounted for if we are to model color appearance from spectrographic reflectance measurements of colors. I will be presenting an in-depth look into the geometries and features of the spaces of reflectance spectra and the Munsell color appearance solid and what set of transformations of the physical space is useful to approximate color appearance space.