

What is constant in colour constancy?

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Color constancy refers to the ability of the human visual system to stabilize the color appearance of surfaces under an illuminant change. In this work we studied how the interrelations among nine colors are perceived under illuminant changes, particularly whether they remain stable across 10 different conditions (5 illuminants and 2 backgrounds). To do so we have used a paradigm that measures several colors under an immersive state of adaptation. From our measures we defined a perceptual structure descriptor that is up to 87% stable over all conditions, suggesting that color category features could be used to predict color constancy. This is in agreement with previous results on the stability of border categories and with computational color constancy algorithms for estimating the scene illuminant.