

Chromatic Adaptation under Mixed Illumination Condition when Comparing Softcopy and Hardcopy Images

CIE 162:2010

The chromatic adaptation transforms (CATs) used in most colour appearance models (CAMs) assume that observers are fully adapted to a given set of viewing conditions. Unfortunately, the condition of complete chromatic adaptation usually does not occur in the consumer market and in more casual industrial use. Instead, these users tend to view softcopy in a room with sufficient ambient illumination to allow comfortable viewing and examination of hardcopy imaging. Further, users often desire to compare hardcopy and softcopy images using rapid successive binocular observations. The focus of this report is to determine how colour imaging experts can best accommodate the desires and practices of these more casual observers. It shows that accounting for mixed and incomplete chromatic adaptation produces more accurate results in colour appearance than not accounting for them. It includes a mathematical model for chromatic adaptation and provides appropriate parameters for the chromatic adaptation model under such viewing conditions.

This publication corrects and replaces CIE 162:2004 "Chromatic Adaptation under Mixed Illumination Condition when Comparing Softcopy and Hardcopy Images" and is readily available via the website of the Central Bureau of the CIE (www.cie.co.at).

The price of this publication is EUR 44, (Members of the National Committees of the CIE get 50% discount).