

COLORIMETRIC CHARACTERISATION OF TRICHROMATIC RGB DIGITAL IMAGES. II. CIE COLORIMETRIC CHARACTERISTICS

Gheorghe DONCEAN¹

doncean_m1967@yahoo.com

Abstract

In performing the colour analysis of a particular colour, according to the CIE standards, the CIE xy, CIE ab and CIE uv colour diagrams are used, as derived from the corresponding XYZ, Lab and Luv colour spaces. They enable the quantification of features such as hue, lightness, saturation, and chromaticity, which are useful in tinctorial practice. As regards the basic features, based on three models included in a structural unit, the colorimetric characteristics are analysed and evolving trends are presented. For systems with a reference state (standard illuminant D65), colour difference computing alternatives are provided. An analysis of colour assessment criteria is provided and, drawing on its conclusions, the appropriate representation space is recommended.

Keywords: CIE XYZ, CIE Yxy, CIE xy, CIE LAB, CIE $L^* a^* b^*$, CIE $L^* u^* v^*$, CIE ΔE^*_{ab} -1976, CIE ΔE^*_{uv} -1994, CIE ΔE^* -2000.