

NEW TECHNICAL COMMITTEE PROPOSAL

1 Title

COMMON COLOUR APPEARANCE

2 Scope

To study and report on common colour appearance, including recommend assessment methods, that measure similarity of images on colour gamuts for output colour reproduction media.

NOTE There are many factors affecting appearance such as resolution, texture, fluorescence, illumination, gloss etc. and determining the relative contribution of each factor is at least very difficult and may be impossible. In order to set an achievable goal for a CIE Technical Committee we propose to limit the scope to the assessment of printed images on substrates with approximately similar characteristics in a fixed viewing environment. The objective should be to identify a colour conversion algorithm or algorithms which preserve colour appearance when images are reproduced on devices with different colour gamuts. Although this scope is limited it will allow the most pressing use case of reproduction of images in a graphic arts environment to be addressed.

3 Publication Type

One or more Technical Reports.

4 Relation to and Impact on Existing Work

It seems that this work is significantly different from other work being conducted in CIE at present and so is unlikely to have an impact on any current work. One topic identified as having strategic importance for the CIE is that of the development of a uniform colour space and our project would benefit from this work.

5 Relevant Country Participation

United Kingdom (GB), Japan (JP), Germany (DE), Norway (NO), United States (US), China (CN) and Korea (KR).

6 Initial Members (from at least five different countries)

Chair: Craig Revie (GB), Yasuki Yamauchi (JP)

Advisors: Po-Chieh Hung (Director CIE Division 8, JP), Phil Green (ICC Technical Secretary, UK), Andreas Kraushaar (Fogra Head of department, Prepress technology, DE)

Members: Philipp Tröster (DE), Gregory High (NO), Peter Nussbaum (NO), Ronnier Luo (CN), Elena A. Fedorovskaya (US), Jiangping Yuan (CN), Choon-Woo Kim (KR).

7 Cooperation and Liaison (if applicable)

CIE Division 1, ISO TC130, ISO/IEC JTC1/SC28/WG4, International Color Consortium.

8 Affected Stakeholders

The stakeholders who are most likely to benefit from work done in this area are graphic arts professionals. A successful outcome for this project is expected to result in the improvement of printed and displayed image fidelity. Given the level of interest we have seen in this topic to date we expect to see the development of many tools for processing and assessing images.

9 Scientific and Technical Objectives

We will develop test methods which will allow researchers to determine whether common colour appearance is a concept that is agreed by all observers and cultures.

We will identify a strategy that will allow the development of a metric for Common Colour Appearance. In the first instance we will restrict our work to the study of reflection media.

10 Outline/Table of Contents

1. Scope
2. Summary
3. Introduction
4. Survey of related work
5. Recommendation and typical condition
6. Worked example
7. Conclusion
8. Acknowledgements
9. Bibliography
- A.1 Use case

11 Work Plan

Phase 1: define and test assessment methods, individual research activities, sharing results of research periodically.

Phase 2: develop a Common Colour Appearance metric and/or model for a well-defined subset, for example reflection prints.

Phase 3: report writing.

12 Copyright

We do not plan to use existing documents.

13 Impact Metrics

The best way to measure the effectiveness of our work would be through the number of standards (de facto or de jure) that build on it. This work has already been requested by ISO TC130 and ISO/IEC JTC1 SC28 as JWG14 would like to develop a standard based on this work.