iccMAX: New Colour Management Paradigm
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What is v4 Good For?
iccMAX vs. v4: Related but Different
#1: Light (and Observer) Independent Color Capture and Reproduction
#2: Handle (predict) changes in lighting

#3: Lightweight Profiles for Capture

Hi my name is sRGB
#4: Wavelength Changes in Reflected Light (Fluorescence)

(Picture from https://www.keech.org.uk/about/news-media/273-fluorescent-fun-for-keech-mum)

(Picture from http://news.yale.edu/2015/02/19/yale-launch-lens-media-lab-photograph-research-and-conservation)
#5: Dependency of Lighting and Viewing Angles

- Azimuth Angle (-10°)
- Zenith Angle (50°)
- x - Horizontal Position (-0.7)
- y - Vertical Position (+0.8)
#6: Describe tints of named colors
#7: Compact Profiles Using Algorithms
#8: Account for differences between observers

LCD Display

Quantum Dot Display

I see grey

I see blue

I see green

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#9: Describe and visualize “color” in terms of “What is it?”

[Images of different experiments and visualizations related to color and cellular responses to various treatments.]

(Picture from https://www.spandidos-publications.com/10.3892/or.2014.3196)

(Picture from http://wgbis.ces.iisc.ernet.in/envirox/?node=26)

(Picture from http://scholarworks.rit.edu/cgi/viewcontent.cgi?article=9306&context=theses)

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iccMAX: From the Bottom Up

Connection Space Extensions
- Spectral profile header extensions
- Profile Connection Condition (PCC) tags
- PCS Transforms
- Sparse matrix encoding
- Multiplex Connection Spaces

multiProcessingElements
- 1-D Look Up Tables (LUTs)
- Matrices
- N-dimensional LUTs
- Calculator element
- ICC Color Appearance Model element
- Tint Array element

Hierarchical tag types
- Named Color Tag Array
- Support for angular dependencies via Bidirectional Reflectance Distribution Functions (BRDF)
- Profile Sequence Information

Other Extensions
- Color Space Encoding profiles
- Gamut Boundary Description encoding
- Color Measurement (CxF) tag encoding
- UTF8 text & UTF16 encoding
- Additional Numeric Array Types
iccMAX (v5) vs. v4

iccMAX profiles have same header + tag structure as v4 profiles, but:
  - Different values possible in header.
  - Some retained tag types from v4, some new tag types.
  - Some v4 tag types deprecated.
  - New color space types, PCS types, data tags.

iccMAX CMMs generally intended to use v4 profiles, but v4 CMMs will not need to be compatible with iccMAX profiles.
See You All
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