Introduction to PSR V2

Renate Rewer

Comparison of PSR V1 and PSR V2

ERA
European Rotogravure Association

European Color Initiative

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Introduction to PSR V2

Basic conditions homogeneity

- Print
    - Homogeneous grey axis alignment
    - No excess colour
    - Evenly distributed brightness control
- Characterisation data
    - One set of characterisation data for all colour management systems (ICC and proprietary)

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Comparing the basic conditions of PSR V1 to PSR V2

PSR V1 Characterisation data set	PSR V2 Characterisation data set
GMG adaptation Characterisation data set 1 Proprietary systems GMG-TC4 (1741 patches) ICC profile Characterisation data set 2 ISO12642 (1485 patches) Generated using GMG-TC4	GMG adaptation Characterisation data set containing 5376 patches of ISO12642 (ECI 2002) ICC profile Characterisation data set with 5376 patches

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Comparing the basic conditions of PSR V1 to PSR V2

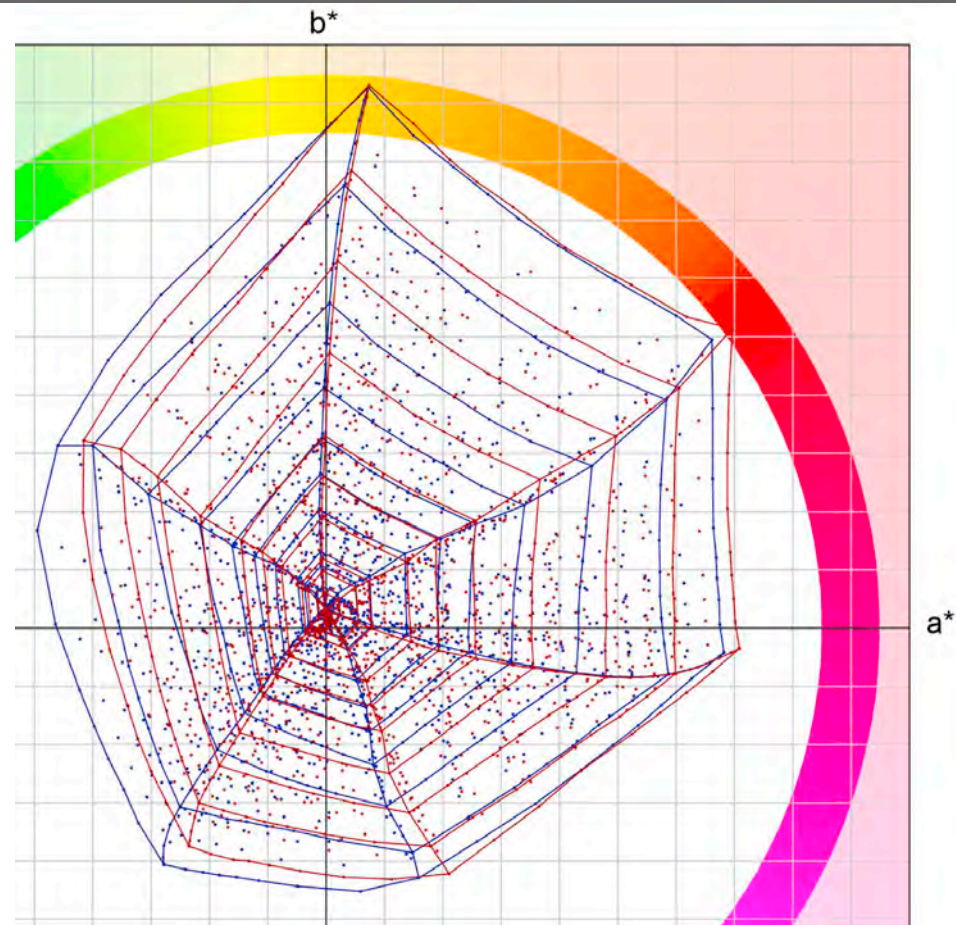| PSR V1 GMG adaptation	PSR V2 GMG adaptation
IrisProofsystem GMG-TC4 plus corrections after alignment with print Epson 4000/x600 Testform x characterisation data? measured using Irisproof plus corrections after alignment with Irisproof Epson x800 Testform x characterisation data? Plus corrections after alignment with Epson/x600 Epson x880 Testform x characterisation data? Plus corrections after alignment with Epson/x800 Epson x900 Testform x characterisation data? Plus corrections after alignment with Epson/x880 same for HP-Z systems	Epson x800 Characterisation data set with 5376 patches Epson x880 Characterisation data set with 5376 patches Epson x900 Characterisation data set with 5376 patches

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Comparing the basic conditions of PSR V1 to PSR V2

Media wedge reference values	Media wedge reference values
FOGRA Extracted from the characterisation data set 2 ISO12642 GMG Other proof based reference values for every proof system?	A version for all proof systems, extracted from the characterisation data set

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Colour space comparison: print PSR_LWC_V2 (blue) to

GMG adaptation Ex880 PSR_LWC_V1 B2816426 (red)

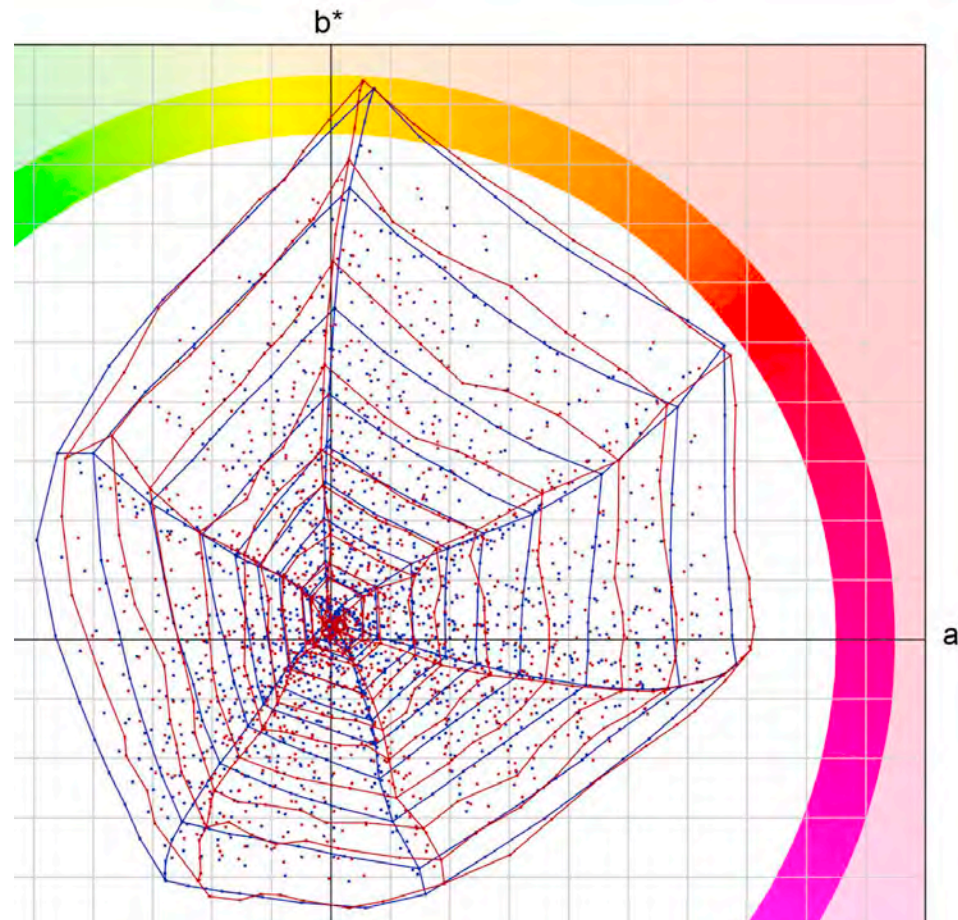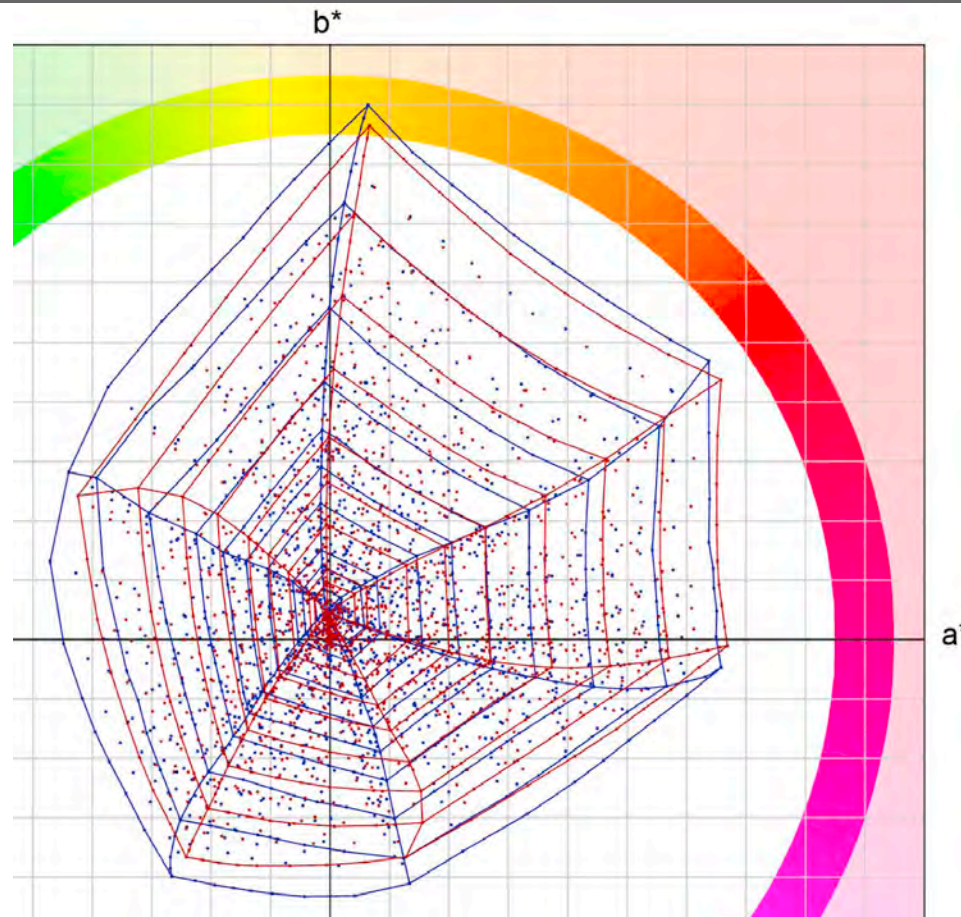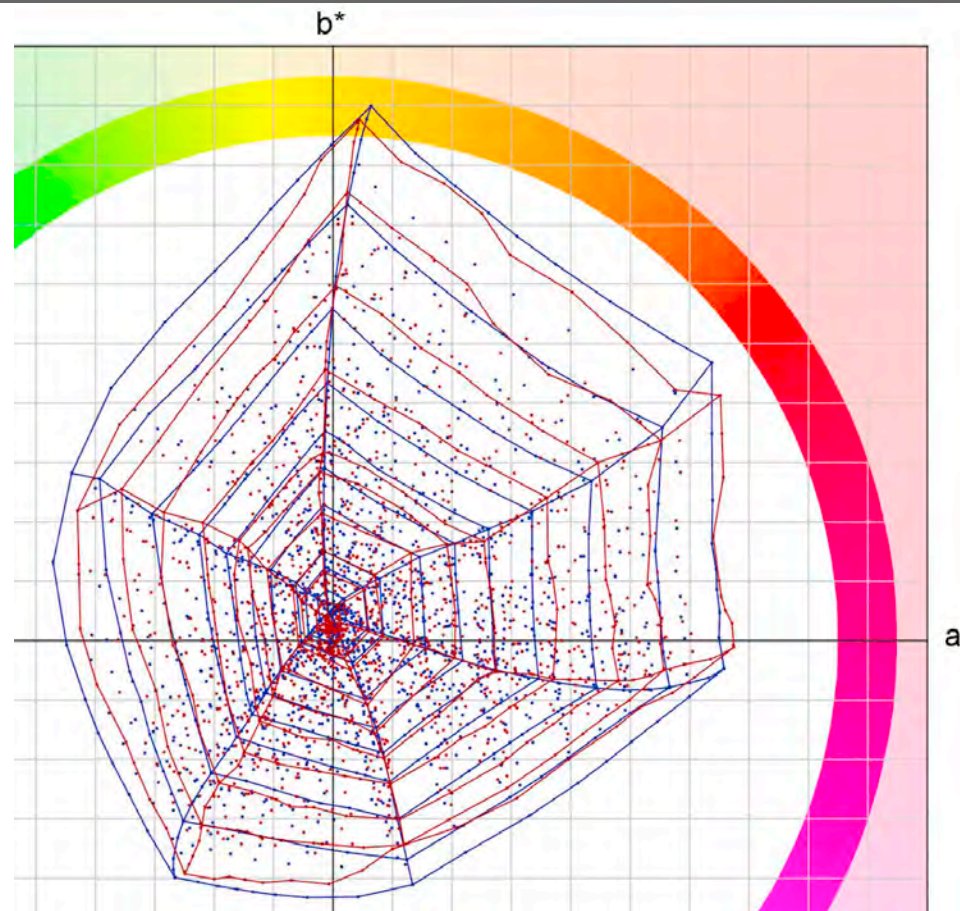**Colour space comparison: print PSR_SC_V2 (blue) to**

print PSR_SC_V1 (red)

Colour space comparison: print PSR_SC_V2 (blue) to GMG adaptation Ex880 PSR_SC_V1 C6859168 (red)

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RGB workflow

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RGB workflow- an introduction by Laudert

- 1998 Beginning of device-independent image editing in LAB D50

- 1999 Construction of the first device-independent database in LAB D50

- 2000 Beginning of production workflow conversion to ECI-RGB

- 2008 Conversion to ECI-RGB of the last CMYK database maintained by us

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Handling of external CMYK databases

- The data is held with us for as long as possible and corrected in RGB format

- Conversion only takes place upon entry in the CMYK database

- In this way, clients with CMYK databases also get maximal quality

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ICC profile database by Laudert

- Definition of the most frequently used colour standard as reference gamut mapping

- Adjustment of the gamut mappings of all other colour spaces to the gamut mapping of the reference colour spaces, so as to ensure maximal conformity of image data perception in the different colour spaces

- Paper tone adaptations to printing standards at client's request, etc.

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Production and delivery

- The entire production is performed in RGB

  - Exception – difficult colour registry images
    (e.g. sharp black and white lines or checks)

  - Proof

  - GMG colour proof

  - ICC proof

  - Soft proof/Remote soft proof

  - Delivery

  - PDF/X1-a

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Image acquisition from CMYK databases to ECI-RGB databases

- If the colour space of the CMYK data is known, then an automatic conversion from an ICC profile to ECI-RGB can be performed

- If the colour space of the CMYK data is unknown, then the profile assignment can occur under visual inspection

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Image acquisition from CMYK databases to ECI-RGB databases

- Conversion parameters

  - Source colour space = CMYK x

  - Target colour space = ECI-RGB

  - Rendering intent = perceptual

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Image acquisition from CMYK databases to ECI-RGB databases

- File format

    - File format: tif (LZW/compressed)

    - Colour space: RGB (ECI-RGB.V1.0.icc or eciRGB_v2.icc)

    - Image depth: 8 bit

    - The ECI-RGB versions differ solely in Gamma

        - ECI-RGB.V1.0.icc: Gamma 1.8 (as in print)

        - eciRGB_v2.icc: L*-characterisation
          (as coded in theoretic optimal CIELAB colour space)

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Why no CMYK workflow?

- Disadvantages of too early separation from RGB to CMYK

  - In the separation from RGB to CMYK, we lose irretrievable image information
    (Reason: gamut mappings in the CMYK target colour space)

  - For a colour space change in the CMYK workflow, a CMYK to CMYK transformation has to be
    performed, which can only be suboptimal

  - Maintenance of an unlimited amount of CMYK to CMYK device link profiles

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Why no CMYK workflow?

- CMYK colour corrections = inhomogeneous colour separations

    - With CMYK colour correction, the separation setting of the image is partially altered, making the separation set-up within the image, and hence also within the print job, no longer homogeneous

    - Alignment with the print machine can no longer be predicted

    - Images of the same colour within the print job behave diversely

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Why no CMYK workflow?

CMYK colour corrections = inhomogeneous colour separations

Korrektur
Druckmaschine:
Gelb +
Schwarz +

Print machine

correction:

yellow +

black +

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I Thank you very much

I for your attention

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