

http://farbe.li.tu-berlin.de/ME50/ME50LONP.PDF /.PS; start output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 1/2

colour television
multicolour printing
colour photography

colour reproductions
film to other media:
film – television
film – printing
film – hardcopy

colour graphics

optimization
(expenses, quality)

computer technic
(hardware,
software)

visual qualities
(colour metric,
lighting technic)

1-003000-L0

ME500-1N, B1_01

visual
properties:

color and
color vision:

color order
color attributes
color scaling
measurement

color reproduction

optimization with:
CIE-color measurement
CIE-color coordinates

technical
properties:

color reproduction
processes:

color television
color photography
multicolor printing

1-003000-L0

ME501-3N, B1_02

three aims:

testing

research and
development

advice and
information

BAM laboratory:
color reproduction

specification and
judgement of
color rendering-quality

simulation of
reproduction

color original →
color film
color film →
color printing
color original →
color printing

1-003000-L0

ME500-5N, B1_03

influence parameters
on color reproduction
quality of the
reproduction row:

color original →
color film

(test-)color original and illumination
(spectral reflection and radiation)
camera, taking filters, exposure
(spectral reflection and radiation)
film material and development
(spectral and absolute sensitivity)
further treatment and projection
(framing, spectral radiation)

1-003000-L0

ME500-7N, B1_04

influence parameters
on color reproduction

quality of the
reproduction row:

color original →
multicolor printing

color film original and illumination
(spectral transmission and radiation)

production of color scan signal
(spectral and absolute sensitivity)

processing of color scan signal
(calculation program for print preparation)

reproduction of multicolor printing
(halftoning, orientation, printing inks)

1-003000-L0

ME501-1N, B1_05

influence parameters
on color reproduction

quality of the
reproduction row:

color original →
color film →
multicolor printing

mode of taking light and exposure
(3200 / 6500 / 9000 K; -3 / 0 / +3 DIN)

color film material
(Agfa, Fuji, Kodak, Konika, 3M)

properties of color scan signal
(spectral and absolute sensitivity)

reproduction model and printing inks
(signal processing, CIE colour scale)

1-003000-L0

ME501-3N, B1_06

scanner for color slide material:

three photoelectric sensors
0,01mm image point diameter
4096 (12 bit) luminance range

measurement at each pixel:
3 color values *R*, *G* and *B*

development intent:
colorimetric device driver:

conversion of three color values
R, *G* and *B* in colorness
*L**, *a** and *b** (CIELAB system)

problems:

large pixel amount:
approximately 3000×2000 pixels
within a color slide 36mm × 24mm
often original size larger than
DIN-A2 with drum scanners

three procedures for optimization
of colorimetric device driver:

adaptation of the spectral
sensitivities at the three
tristimulus value functions

optimization of 3 × 3- or
3 × 6-device matrices for
conversion from *RGB* to *L*a*b**
with 17 CIE-test colors

calculation of the spectral color
reflection or transmission
at each image position, for example
with three densities of three known
dyes (color pigments),
only possible for
homogeneous material
(slide material, printing material)

1-003000-L0

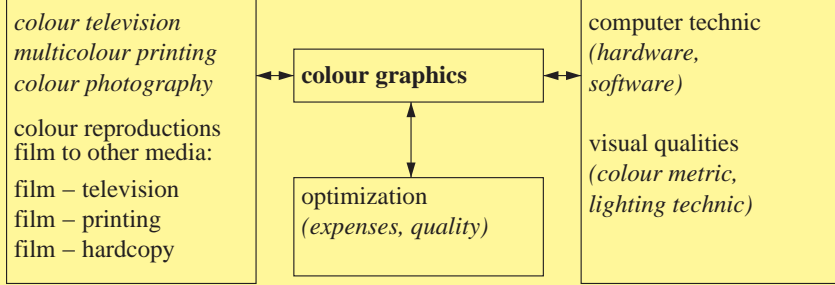
ME501-7N, B1_07

TUB-test chart ME50; Computer graphics and colorimetry
Image series ME50, 3D=0, de=0

input: *rgb/cmyk* → *rgb/cmyk*
output: no change

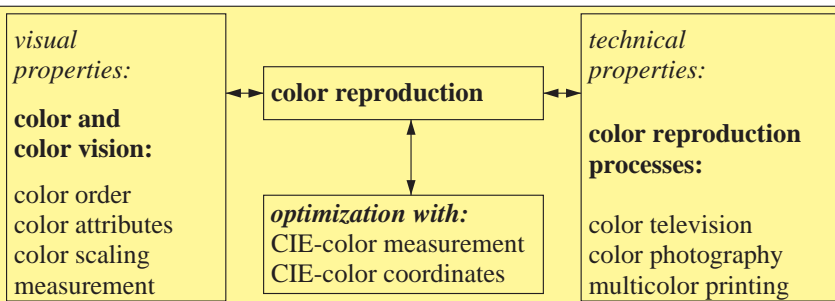
see similar files: <http://farbe.li.tu-berlin.de/ME50/ME50LONP.PDF> / .PS
<http://130.149.60.45/~farbmeterik> or <http://farbe.li.tu-berlin.de>

http://farbe.li.tu-berlin.de/ME50/ME50LONP.PDF /.PS; transfer output
N: no 3D-linearization (OL) in file (F) or PS-startup (S), page 2/2



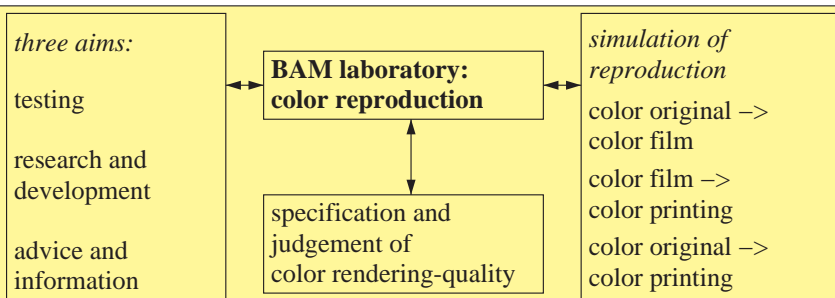
1-003100-L0

ME500-10, B1_01



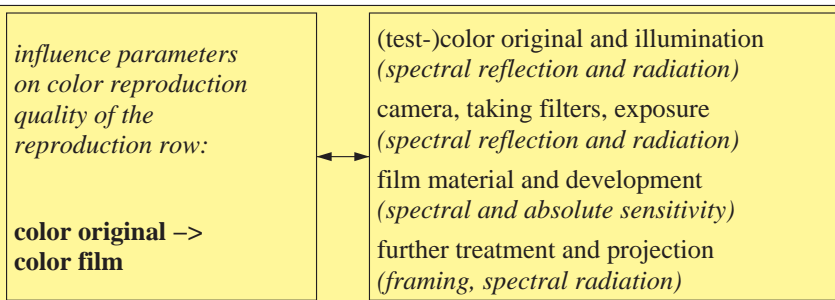
1-003100-L0

ME501-30, B1_02



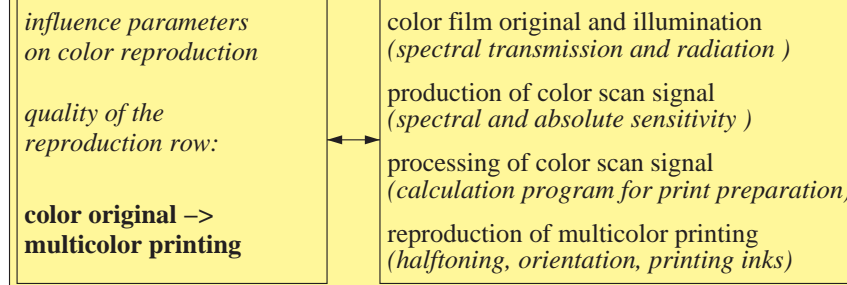
1-003100-L0

ME500-50, B1_03



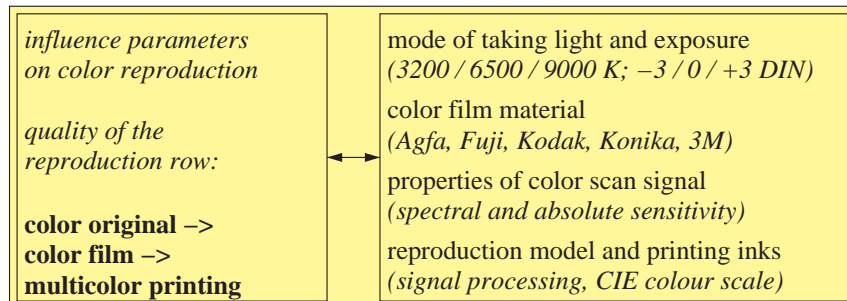
1-003100-L0

ME500-70, B1_04



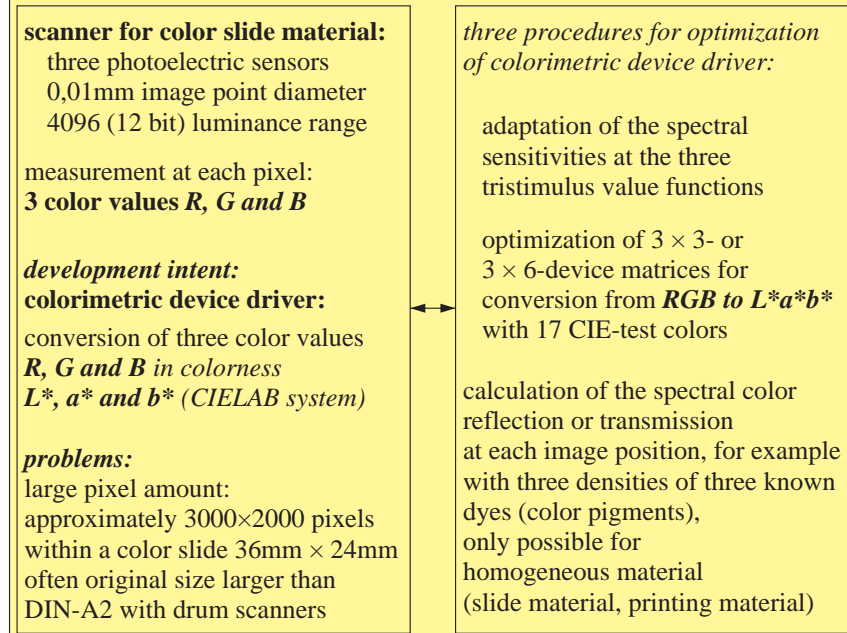
1-003100-L0

ME501-10, B1_05



1-003100-L0

ME501-30, B1_06



1-003100-L0

ME501-70, B1_07

TUB-test chart ME50; Computer graphics and colorimetry
Image series ME50, 3D=0, de=0, L-cmy6

PE4300L_120830.TXT, 1080 colors, Separation cmy6*
input: *rgb/cmyk* → *rgb_d*
output: transfer to *rgb_d*

see similar files: <http://farbe.li.tu-berlin.de/ME50/ME50LONP.PDF> / .PS
<http://130.149.60.45/~farbmetrik> or <http://farbe.li.tu-berlin.de>

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ME500-1N, B1_01

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ME501-3N, B1_02

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ME500-5N, B1_03

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film material and development
(spectral and absolute sensitivity)
further treatment and projection
(framing, spectral radiation)

1-013000-L0

ME500-7N, B1_04

influence parameters
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quality of the
reproduction row:

color original →
multicolor printing

color film original and illumination
(spectral transmission and radiation)

production of color scan signal
(spectral and absolute sensitivity)

processing of color scan signal
(calculation program for print preparation)

reproduction of multicolor printing
(halftoning, orientation, printing inks)

1-013000-L0

ME501-1N, B1_05

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reproduction model and printing inks
(signal processing, CIE colour scale)

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ME501-3N, B1_06

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1-013000-L0

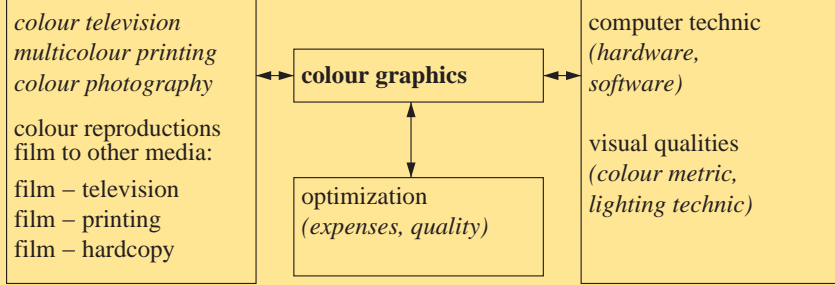
ME501-7N, B1_07

TUB-test chart ME50; Computer graphics and colorimetry
Image series ME50, 3D=0, de=1

input: *rgb/cmyk* → *rgb/cmyk*
output: no change

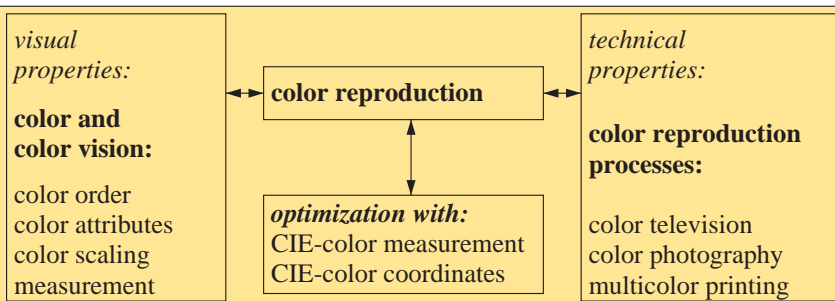
see similar files: <http://farbe.li.tu-berlin.de/ME50/ME50LONP.PDF> / .PS
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http://farbe.li.tu-berlin.de/ME50/ME50LONP.PDF /.PS; transfer output
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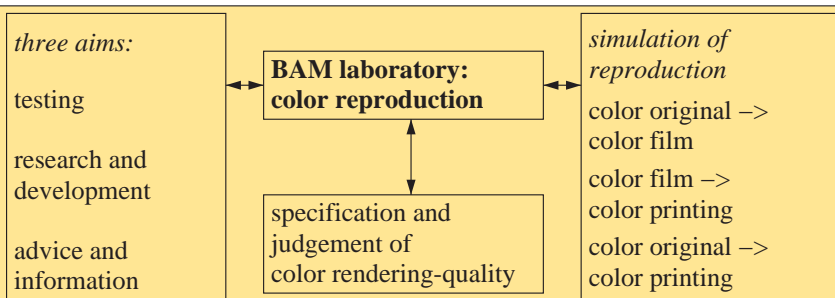
1-013100-L0

ME500-11, B1_01



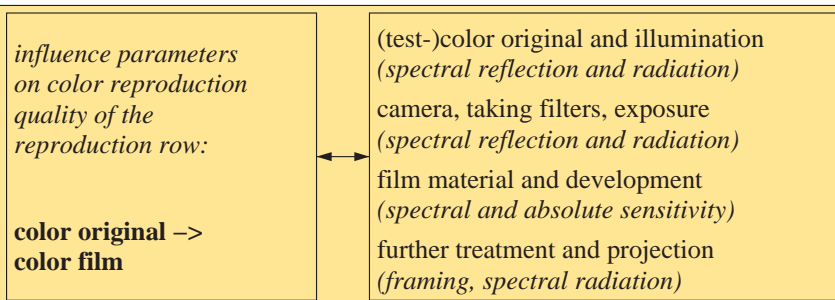
1-013100-L0

ME501-31, B1_02



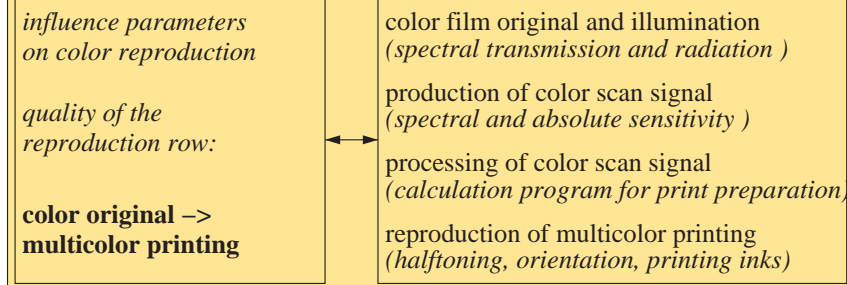
1-013100-L0

ME500-51, B1_03



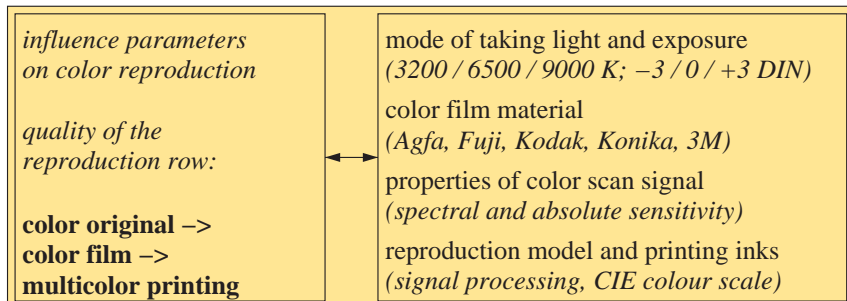
1-013100-L0

ME500-71, B1_04



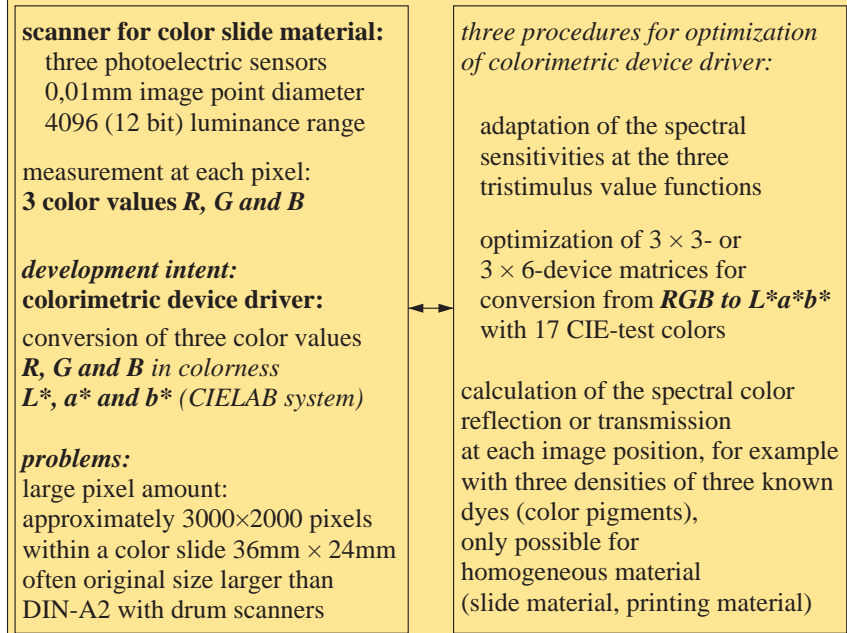
1-013100-L0

ME501-11, B1_05



1-013100-L0

ME501-31, B1_06



1-013100-L0

ME501-71, B1_07

TUB-test chart ME50; Computer graphics and colorimetry
Image series ME50, 3D=0, de=1, L^*cmyn6

PE4300L_120830.TXT, 1080 colors, Separation cmyn6*
input: $rgb/cmyk \rightarrow rgb_e$
output: transfer to rgb_e

see similar files: <http://farbe.li.tu-berlin.de/ME50/ME50LONP.PDF> / .PS
<http://130.149.60.45/~farbmetrik> or <http://farbe.li.tu-berlin.de>