

PSL2-program code: definition and reproduction of 20 L*-lightnesses

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%%PS-Adobe-3.0 B7241-7n.eps 20.10.94
%%BoundingBox: 72 90 226 206
/FS [findfont exch scalefont setfont] bind def
/MM [72 25.4 div mul] def
/languagelevel where {pop languagelevel} {1} ifelse
/PSL2 exch def
/dictende {countmark 2 idiv dup dict begin {def}
  repeat pop currentdict end} bind def
%%EndProlog

72 90 translate 0.01 MM dup scale 20 setlinewidth

PSL2 2 ge
[ {/CIEBasedA {
  /WhitePoint [1 1 1] %monochrome L*-color space for D65
  /RangeA [0 100] %CIEXYZ for white
  /DecodeA %CIELAB-L*-limits N/W
    [16 add 116 div 3 exp] bind
    dictende } setcolorspace } if {standard-PSL2 L* setcolor

PSL2 1 eq
{setcolor [0.01 mul 0.4 exp setgray] def } if

/colqua {moveto s 0 rlineto 0 s rlineto s neg 0 rlineto %square
  closepath} bind def

/s 600 def /xw 1000 def /yw 800 def square width and distances

50 setcolor %Graufeld mit L*=50 (mean CIELAB-lightness)
0 0 moveto 5400 0 rlineto 0 4000 rlineto %image size 54mm x 40mm
  -5400 0 rlineto closepath fill

/TR [250 /Times-ISOL1 PS] bind def %Times-Roman; Hoehe 2,5mm
/TI [250 /Times-ISOL1 PS] bind def %Times-Italic

1200 3720 moveto 100 setcolor
TR (20 CIELAB ) show TI (L*-) show TR (lightness) show

550 400 translate %zero point lower left gray square

0 1 3 {/i exch def %line index i=0, 1, 2, 3
  0 1 4 {/j exch def %row index j=0, 1, 2, ..., 5
    /n i 5 mul j add def %serial number 0, 1, ..., 19
    /L* n 1 add 5 mul def %20 L*-lightness L*=5, ..., 100

    /x0 j xw mul def %x-position for square
    /y0 i yw mul def %y-position

    L* setcolor %CIELAB-L*-lightness
    x0 y0 colqua fill %xy0 fill square

    L* 50 eq {100 setcolor %special case square edge
      x0 y0 colqua stroke} if %xy0 square

    L* 4 string cvs dup stringwidth %x-, y-string length L*
    pop x0 exch sub 20 sub %x-position minus x1
    y0 100 add moveto %y-text-position

    100 setcolor show %text L* right justified W
    } for %end loop j
  } for %end loop i

showpage
  
```

ME37/0-7, B8_41

PSL2-program code: definition and reproduction of 20 L*-colors

```

%%PS-Adobe-3.0 B7241-7n.eps 20.10.94
%%BoundingBox: 72 90 226 206
/FS [findfont exch scalefont setfont] bind def
/MM [72 25.4 div mul] def
/languagelevel where {pop languagelevel} {1} ifelse
/PSL2 exch def
/dictende {countmark 2 idiv dup dict begin {def}
  repeat pop currentdict end} bind def
%%EndProlog

72 90 translate 0.01 MM dup scale

PSL2 2 ge [ {/CIEBasedABC { %color space and limits D65
  /WhitePoint [0.9505 1 1.089] %CIEXYZ for D65
  /RangeABC [0 0.9505 0 1 0 1.0885] %CIEXYZ-limits N/W
  /RangeLMN [0 0.9505 0 1 0 1.0885] dictende } setcolorspace} if

PSL2 1 eq
[ {setrgbcolor where %definition for PSL1-Gererate
  {pop setrgbcolor} %question for PSL1 color device
  {pop 0.4 exp setgray pop} ifelse } %PSL1 color device
  {setcolor exch def} if %PSL1 NW device

/LABDEF [/b* exch def /a* exch def /L* exch def] bind def
/X* [L* 16 add 116 div a* 500 div add] bind def
/Y* [L* 16 add 116 div b* 500 div add] bind def
/Z* [L* 16 add 116 div b* 200 div sub] bind def
/DecodeXYZ* [dup 6 29 div ge {dup dup mul mul}
  {4 29 div sub 108 841 div mul} ifelse] bind def
/X [X* DecodeXYZ* 0.9505 mul ] bind def
/Y [Y* DecodeXYZ*] bind def
/Z [Z* DecodeXYZ* 1.0890 mul ] bind def
/LABXYZ [LABDEF X Y Z] bind def

/s 600 def /xw 1000 def /yw 900 def %square width and distances

/colqua {moveto s 0 rlineto 0 s rlineto %square
  s neg 0 rlineto closepath fill} bind def

50 0 0 LABXYZ setcolor %gray square with L*=50 (mean CIELAB lightness)
0 0 moveto 5400 0 rlineto 0 4000 rlineto %image size 54mm x 40mm
  -5400 0 rlineto closepath fill

/TR [250 /Times-ISOL1 PS] bind def %Times-Roman; height 2,5mm
/TI [250 /Times-ISOL1 PS] bind def %Times-Italic

1200 3720 moveto 100 0 LABXYZ setcolor
TR (20 CIELAB ) show TI (L*a*-) show TR (colors) show

100 3720 moveto TI (L*) show
5100 100 moveto TI (a*) show TR

400 300 translate %zero point lower left test color

0 1 3 {/i exch def %for CIELAB-L*= 20, 40, 60, 80
  0 1 4 {/j exch def %for CIELAB-a*=0, 20, 40, 60, 80
    /LS i 1 add 20 mul def
    /AS j 20 mul def

    LS as 0 LABXYZ setcolor %L*, a*, b*=0 -> XYZ
    j xw mul i yw mul colqua

    100 0 LABXYZ setcolor %writing W
    LS 4 string cvs dup stringwidth pop /xl exch def
    j xw mul xl sub 050 sub i yw mul 200 add moveto show
    AS 4 string cvs dup stringwidth pop /xl exch def
    j xw mul xl sub 400 add i yw mul 220 sub moveto show
    } for %i
  } for %j

showpage
  
```

ME37/1-7, B8_43