

PSL2-Programmcode: Definition und Reproduktion von 20 L*-Helligkeiten

```
%!PS-Adobe-3.0 B7231-7n.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
/PSL12 exch def
/dictende {counttomark 2 idiv dup dict begin {def}
  repeat pop currentdict end} bind def
%%EndProlog

72 90 translate 0.01 MM dup scale 20 setlinewidth

PSL12 2 eq {
  %Abfrage PostScript Level 1 oder 2
  [%monochromer L*-Farbraum fuer D65
  /WhitePoint [1 1 1]
  /RangeABC [0 100]
  /DecodeA
  {16 add 116 div 3 exp} bind
  dictende ] setcolorspace } if

  %Standard-PSL2 L* setcolor
}

PSL12 1 eq {
  %Definition PSL1-SW-Geraet
  [/setcolor {0.01 mul 0.4 exp setgray} def } if

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

/s 600 def /xw 1000 def /yw 800 def %Quadratseite und Abstaende

50 setcolor %Graufeld mit L*=50 (mittlere CIELAB-Helligkeit)
0 0 moveto 5400 0 rlineto 0 4000 rlineto %Bildfeld 54mm x 40mm
-5400 0 rlineto closepath fill

/TR {250 /Times-Roman FS} bind def %Times-Roman; Hoehe 2,5mm
/TI {250 /TimesI-ISOL1 FS} bind def %Times-Italic

1200 3700 moveto 100 setcolor
TR (20 CIELAB ) show TI (L*- ) show TR (Helligkeiten) show

550 400 translate %Nullpunkt unteres linkes Graufeld

0 1 3 {/i exch def %Zeilenindex i=0, 1, 2, 3
  0 1 4 {/j exch def %Spaltenindex j=0, 1, 2, ..., 5
    /n i 5 mul j add def %laufende Nummer 0, 1, ..., 19
    /L* n 1 add 5 mul def %20 L*-Helligkeiten L*=5, ..., 100

    /x0 j xw mul def %x-Position fuer Quadrat
    /y0 i yw mul def %y-Position

    L* setcolor %CIELAB-L*-Helligkeit
    x0 y0 colqua fill %xy0-Quadrat fuellen

    L* 50 eq {100 setcolor %Sonderfall Quadratrand
      x0 y0 colqua stroke} if %xy0-Quadrat

    L* 4 string cvs dup stringwidth %x-, y-Stringlaenge L*
    pop x0 exch sub 20 sub %x-Position minus xl
    y0 100 add moveto %y-Text-Position

    100 setcolor show %Text L* rechtsbuendig W
    } for %Ende Schleife j
  } for %Ende Schleife i

showpage
```

MG370-7, B8_41

PSL2-Programmcode: Definition und Reproduktion von 20 CIE-L*-Farben

```
%!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
/PSL12 exch def
/dictende {counttomark 2 idiv dup dict begin {def}
  repeat pop currentdict end} bind def
%%EndProlog

72 90 translate 0.01 MM dup scale

PSL12 2 eq {
  %Farbraum und Grenzen fuer D65
  /WhitePoint [0.9505 1 1.089]
  /RangeABC [0 0.9505 0 1 0 1.0885]
  /RangeLMN [0 0.9505 0 1 0 1.0885] dictende ] setcolorspace } if

  %CIEXYZ fuer D65
  %CIEXYZ-Grenzen N/W
  %PSL1-Farb-Geraet
  %PSL1-SW-Geraet
}

PSL12 1 eq {
  %Definition alle PSL1-Geraete
  { [/setrgbcolor where
    {pop setrgbcolor}
    {pop 0.4 exp setgray pop} ifelse }
  /setcolor exch def } if

/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} 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 %Quadratseite und Abstaende

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

50 0 0 LABXYZ setcolor %Graufeld mit L*=50 (mittlere CIELAB-Helligkeit)
0 0 moveto 5400 0 rlineto 0 4000 rlineto %Bildfeld 54mm x 40mm
-5400 0 rlineto closepath fill

/TR {250 /Times-Roman FS} bind def %Times-Roman; Hoehe 2,5mm
/TI {250 /TimesI-ISOL1 FS} bind def %Times-Italic

1200 3720 moveto 100 0 0 LABXYZ setcolor
TR (20 CIE) show TI (-L*a*b-) show TR (Farben) show
100 3720 moveto TI (L*) show
5100 100 moveto TI (a*) show TR

400 300 translate %Nullpunkt unteres linkes Farbfeld

0 1 3 {/i exch def %fuer CIELAB-L*= 20, 40, 60, 80
  0 1 4 {/j exch def %fuer 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 0 LABXYZ setcolor %Schrift 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 %j
  } for %i

showpage
```

MG371-7, B8_43