

Cheat sheet for pst-optexp (v5.0)

General component parameters

labeloffset= $\langle num \rangle$
labelstyle= $\langle macros \rangle$
labelalign= $\langle refpoint \rangle$
labelangle= $\langle num \rangle$
labelref=relative, relgrav, global, absolute
label= $\langle offset \rangle$ [$\langle angle \rangle$] [$\langle refpoint \rangle$] [$\langle labelref \rangle$]
innerlabel=true
position= $\langle num \rangle$, start, end
abspos= $\langle num \rangle$, start, end
endbox=true, false
angle= $\langle pstyle \rangle$
rotateref= $\langle refpoint \rangle$
compshift= $\langle num \rangle$
compoffset= $\langle num \rangle$
innercompalign=rel, relative, abs, absolute
OptComp $\langle pstyle \rangle$
OptionalStyle $\langle pstyle \rangle$
VariableStyle $\langle pstyle \rangle$
addtoOptComp= $\langle list \rangle$
newOptComp= $\langle list \rangle$
optional=true, false

Free-ray components

$\backslash lens$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

lensheight= $\langle num \rangle$
lensradiusleft= $\langle num \rangle$
lensradiusright= $\langle num \rangle$
lensradius= $\langle left \rangle$ [$\langle right \rangle$]
lenswidth= $\langle num \rangle$
lens= $\langle radiusleft \rangle$ [$\langle radiusright \rangle$] [$\langle height \rangle$] [$\langle width \rangle$]
thicklens=true, false

$\backslash optplate$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

plateheight= $\langle num \rangle$
platelinewidth= $\langle num \rangle$ or $\langle dimen \rangle$

$\backslash optretplate$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

platewidth= $\langle num \rangle$
platesize= $\langle width \rangle$ $\langle height \rangle$

$\backslash pinhole$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

outerheight= $\langle num \rangle$
innerheight= $\langle num \rangle$
phlinewidth= $\langle num \rangle$ or $\langle dimen \rangle$
phwidth= $\langle num \rangle$

$\backslash optbox$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

optboxwidth= $\langle num \rangle$
optboxheight= $\langle num \rangle$
optboxsize= $\langle width \rangle$ $\langle height \rangle$

$\backslash optarrowcomp$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

arrowcompwidth= $\langle num \rangle$
arrowcompheight= $\langle num \rangle$
arrowcompsize= $\langle size \rangle$ or $\langle width \rangle$ $\langle height \rangle$
arrowcompangle= $\langle num \rangle$
arrowcompshape=rectangle, circle
ArrowCompStyle $\langle pstyle \rangle$

$\backslash optbarcomp$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

barcompwidth= $\langle num \rangle$
barcompheight= $\langle num \rangle$
barcompsize= $\langle size \rangle$ or $\langle width \rangle$ $\langle height \rangle$
barcompangle= $\langle num \rangle$
barcompshape=rectangle, circle
BarCompStyle $\langle pstyle \rangle$

$\backslash optsource$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

sourcewidth= $\langle num \rangle$
sourceheight= $\langle num \rangle$
sourcesize= $\langle width \rangle$ $\langle height \rangle$

$\backslash crystal$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

crystalwidth= $\langle num \rangle$
crystalheight= $\langle num \rangle$
crystalsize= $\langle width \rangle$ $\langle height \rangle$
caxislength= $\langle num \rangle$
caxisinv=true, false
voltage=true, false
lamp=true, false
CrystalCaxis $\langle pstyle \rangle$
CrystalLamp $\langle pstyle \rangle$

$\backslash optdiode$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

optdiodesize= $\langle num \rangle$

$\backslash doveprism$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

doveprismsize= $\langle num \rangle$ or $\langle width \rangle$ $\langle height \rangle$

$\backslash glanthompson$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

glanthompsonwidth= $\langle num \rangle$
glanthompsonheight= $\langle num \rangle$
glanthompsonsize= $\langle width \rangle$ $\langle height \rangle$
glanthompsongap= $\langle num \rangle$

$\backslash polarization$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

polsize= $\langle num \rangle$
poltype=parallel, perp, misc, lcirc, rcirc
Polarization $\langle pstyle \rangle$

$\backslash mirror$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle center \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

mirrorwidth= $\langle num \rangle$
mirrorlinewidth= $\langle num \rangle$ or $\langle dimen \rangle$
mirrorradius= $\langle radius \rangle$ [0]
mirrortype=plain, piezo, extended, semitrans
variable=true, false
mirrordepth= $\langle num \rangle$
ExtendedMirror $\langle pstyle \rangle$
PiezoMirror $\langle pstyle \rangle$
SemitransMirror $\langle pstyle \rangle$

$\backslash parabolicmirror$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

parmirrorwidth= $\langle num \rangle$
parmirrorheight= $\langle num \rangle$

$\backslash beamsplitter$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle center \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

bssize= $\langle num \rangle$
bsstyle=cube, plate

$\backslash optgrating$ [$\langle opt \rangle$] ($\langle in \rangle$) ($\langle center \rangle$) ($\langle out \rangle$) { $\langle label \rangle$ }

gratingwidth= $\langle num \rangle$
gratingheight= $\langle num \rangle$
gratingdepth= $\langle num \rangle$
gratingcount= $\langle int \rangle$
gratingtype=blazed, binary
gratingalign=t, top, c, center
reverse=true, false
gratinglinewidth= $\langle num \rangle$ or $\langle dimen \rangle$

\transmissiongrating[(*opt*)]((*in*))((*center*))((*out*)){*label*}
\optaom[(*options*)]((*in*))((*trans*))((*diff*)){*label*}
 aomheight=*num*
 aomwidth=*num*
 aomsize=*width* <*height*>
 aomgratingcount=*int*
 aomalign=symmetric, straight
 aomreflalign=perp, parallel
 aomcomp=default, <macro>
 diffractionorders=*int*
 beamdiffractionorder=*int*

\optprism[(*opt*)]((*in*))((*center*))((*out*)){*label*}
 prismsize=*num*
 prismangle=*num*
 prismtype=transmittive, reflective
 prismalign=auto, center

\rightangleprism[(*opt*)]((*in*))((*center*))((*out*)){*label*}
 raprismsize=*num*
 raprismalign=auto, center

\pentaprism[(*opt*)]((*in*))((*center*))((*out*)){*label*}
 pentaprismsize=*num*

Fiber components

usefiberstyle=true, false
 usewirestyle=true, false

\optfiber[(*opt*)]((*in*))((*out*)){*label*}
 fiberloops=*int*
 fiberloopradius=*num*
 fiberloopsep=*num*

\optamp[(*opt*)]((*in*))((*out*)){*label*}
 optampsize=*num* or <*width*> <*height*>

\optmzm[(*opt*)]((*in*))((*out*)){*label*}
 optmzmsize=*num* or <*width*> <*height*>

\polcontrol[(*opt*)]((*in*))((*out*)){*label*}
 polcontrolsize=*num*
 polcontroltype=linear, triangle

\optisolator[(*opt*)]((*in*))((*out*)){*label*}

\optisolator[(*opt*)]((*in*))((*out*)){*label*}
 isolatorsize=*num* or <*width*> <*height*>
 IsolatorArrow <*psstyle*>
\optswitch[(*opt*)]((*in*))((*out*)){*label*}
 switchsize=*num* or <*width*> <*height*>
 switchstyle=opened, closed

\fiberdelayline[(*opt*)]((*in*))((*out*)){*label*}
 fldsize=*num* or <*width*> <*height*>
 FdlArrow <*psstyle*>

\optfiberpolarizer[(*opt*)]((*in*))((*out*)){*label*}
 fiberpolsize=*num* or <*width*> <*height*>

\optcirculator((*left*))((*right*))((*bottom*)){*label*}
 optcirsize=*num*
 optcircangleA=*num*
 optcircangleB=*num*
 optcircangle=*num* <*num*>
 OptCircArrow <*psstyle*>

\optcoupler((*tl*))((*bl*))((*tr*))((*br*)){*label*}
\wdmcoupler((*tl*))((*bl*))((*r*)){*label*}
\wdmsplitter((*l*))((*tr*))((*br*)){*label*}
 couplersize=*num* or <*width*> <*height*>
 couplersep=*num*
 couplertype=none, ellipse, rectangle, cross
 coupleralign=t, top, b, bottom, c, center
 VariableCoupler <*psstyle*>

\fiberbox((*in*))((*out*)){*label*}
 fiberboxwidth=*num*
 fiberboxheight=*num*
 fiberboxsize=*width* <*height*>
 fiberboxsep=*num*
 fiberboxsepout=*num*
 fiberboxcount=*N*x*M*

Electrical components

\eleccoupler((*tl*))((*bl*))((*tr*))((*br*)){*label*}
 eleccouplersize=*size* or <*width*> <*height*>
 eleccouplersep=*num*
 eleccouplertype=standard, directional
 eleccouplerinput=left, right

\elecsynthesizer((*in*))((*out*)){*label*}
 synthsize=*size* or <*width*> <*height*>
 synthtype=sine, pulse, sawtooth, rectangle,
 triangle, custom
 synthshape=circle, rectangle
 SynthStyle <*psstyle*>

\elecmixer((*left*))((*right*))((*bottom*)){*label*}
 elecmixersize=*num*

Hybrid components

\optfilter[(*opt*)]((*in*))((*out*)){*label*}
 filtersize=*num*
 filtertype=bandpass, bandstop, lowpass,
 highpass
 filterangle=*num*
 FilterStyle <*psstyle*>

\fibercollimator((*in*))((*A*))((*B*))((*out*)){*label*}
 fibercolsize=*num* or <*width*> <*height*>

\optdetector[(*opt*)]((*in*))((*out*)){*label*}
 detsize=*num* or <*width*> <*height*>
 dettype=round, diode
 DetectorStyle <*psstyle*>

Special nodes

\oenode{*node*}{*comp*}
 namingscheme=old, new
 showoptdots=true, false
 compname=<*string*>

\oenodeRefA{*comp*}
\oenodeRefB{*comp*}
\oenodeTrefA{*comp*}
\oenodeTrefB{*comp*}
\oenodeCenter{*comp*}
\oenodeLabel{*comp*}
\oenodeExt{*comp*}
 extnode=<*refpoint*>
 extnodealign=rel, relative, abs, absolute

```

extnodes= $\langle list \rangle$ 
\oenodeIfc $\{\langle num \rangle\}\{\langle comp \rangle\}$ 
\oenodeIn $\{\langle comp \rangle\}$ 
\oenodeOut $\{\langle comp \rangle\}$ 
\oenodeRotref $\{\langle comp \rangle\}$ 
\oenodeBeam $\{\langle num \rangle\}$ 
\oenodeBeamUp $\{\langle num \rangle\}$ 
\oenodeBeamLow $\{\langle num \rangle\}$ 
\oeBeamCenter $\{\langle num \rangle\}$ 
\oeBeamVec $\{\langle num \rangle\}$ 
\oeBeamVecUp $\{\langle num \rangle\}$ 
\oeBeamVecLow $\{\langle num \rangle\}$ 
\oeBeamVecMedian $\{\langle num \rangle\}$ 

```

Connecting components

```

\drawbeam $[\langle options \rangle]\{\langle obj_1 \rangle\}\{\langle obj_2 \rangle\} \dots$ 
    raytrace=true, false
    useNA=true, false
    n= $\langle code \rangle$ 
    beampos= $[\langle x \rangle] \langle y \rangle$ 
    beamangle= $\langle pscode \rangle$ 
    beamalign=rel, relative, abs, absolute,
        firstcomp
    beampathskip= $\langle num \rangle$ 
    beampathcount= $\langle num \rangle$ 
    beaminside=true, false
    beaminsidefirst=true, false
    beaminsidelast=true, false
    allowbeaminside=true, false
    forcebeaminside=true, false
    startinsidecount= $\langle num \rangle$ 
    stopinsidecount= $\langle num \rangle$ 
    beammode=refl, trans, reflective, transmittive,
        auto
    beamnodealign=vec, conn, vector, connection

\optplane( $\langle center \rangle$ )
    beam=true, false
    Beam  $\langle psstyle \rangle$ 
    addtoBeam= $\langle list \rangle$ 
    newBeam= $\langle list \rangle$ 

```

```

ArrowInsideMinLength= $\langle pscode \rangle$ 
ArrowInsideMaxLength= $\langle pscode \rangle$ 
fade  $\langle linestyle \rangle$ 
fadeto=white, black, transparency
fadepoints= $\langle num \rangle$ 
fadefuncname=gauss, linear, squared, exp,
    custom
fadefunc= $\langle PS code \rangle$ 

```

```

\drawwidebeam $[\langle options \rangle]\{\langle obj_1 \rangle\}\{\langle obj_2 \rangle\} \dots$ 
    beamwidth= $\langle pscode \rangle$ 
    beamdiv= $\langle pscode \rangle$ 
    pswarning=true, false
    savebeampoints=true, false,  $\langle int \rangle$ 
    loadbeampoints=true, false,  $\langle int \rangle$ 
    savebeam=true, false,  $\langle int \rangle$ 
    loadbeam=true, false,  $\langle int \rangle$ 
    startinside=true, false
    stopinside=true, false

```

```

\drawfiber $[\langle options \rangle]\{\langle obj_1 \rangle\}\{\langle obj_2 \rangle\} \dots$ 
    fiberalign=rel, relative, center, abs,
        absolute
    fiberangleA= $\langle num \rangle$ 
    fiberangleB= $\langle num \rangle$ 
    startnode=auto, N, 1, 2, ...
    stopnode=auto, N, 1, 2, ...
    Fiber  $\langle psstyle \rangle$ 
    addtoFiber= $\langle list \rangle$ 
    newFiber= $\langle list \rangle$ 
    fiberstyle= $\langle string \rangle$ 

```

```

\drawwire $[\langle options \rangle]\{\langle obj_1 \rangle\}\{\langle obj_2 \rangle\} \dots$ 
    wirealign=rel, relative, center, abs,
        absolute
    wireangleA= $\langle num \rangle$ 
    wireangleB= $\langle num \rangle$ 
    wirestyle= $\langle string \rangle$ 
    addtoWire= $\langle list \rangle$ 
    newWire= $\langle list \rangle$ 
    Wire  $\langle psstyle \rangle$ 
    fiber=[*+]none, all, i, o,  $\langle refpoint \rangle$ 
    wire=[*+]none, all, i, o,  $\langle refpoint \rangle$ 

```

```

\begin{optexp} \dots \end{optexp}
\backlayer $\{\langle code \rangle\}$ 
\frontlayer $\{\langle code \rangle\}$ 

```

Custom components

```

\optdipole $[\langle options \rangle](\langle in \rangle)(\langle out \rangle)\{\langle comp \rangle\}\{\langle label \rangle\}$ 
\opttripole $[\langle options \rangle](\langle in \rangle)(\langle center \rangle)(\langle out \rangle)\{\langle comp \rangle\}\{\langle label \rangle\}$ 
    optdipolesize= $\langle width \rangle$  [ $\langle height \rangle$ ]
    optdipolecomp= $\langle macros \rangle$ 
    opttripolecomp= $\langle macros \rangle$ 

\newOptexpDipole $[\langle fixopt \rangle]\{\langle name \rangle\}\{\langle dftopt \rangle\}$ 
\newOptexpTripole $[\langle fixopt \rangle]\{\langle name \rangle\}\{\langle dftopt \rangle\}$ 
\newOptexpFiberDipole $[\langle fixopt \rangle]\{\langle name \rangle\}\{\langle dftopt \rangle\}$ 
\newOptexpElecDipole $[\langle fixopt \rangle]\{\langle name \rangle\}\{\langle dftopt \rangle\}$ 

```

Additional information

```

showifcnodes=true, false
IfcNodeStyle  $\langle psstyle \rangle$ 
showinterfaces=true, false
IfcStyle  $\langle psstyle \rangle$ 

```