

# Cheat sheet for pst-optexp (v4.1)

## 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= $\langle num \rangle$   
rotateref= $\langle refpoint \rangle$   
compshift= $\langle num \rangle$   
compoffset= $\langle num \rangle$   
innercompalign=rel, relative, abs, absolute  
OptComp $\langle psstyle \rangle$   
OptionalStyle $\langle psstyle \rangle$   
VariableStyle $\langle psstyle \rangle$   
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 $\langle psstyle \rangle$

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

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 $\langle psstyle \rangle$

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

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 $\langle psstyle \rangle$   
CrystalLamp $\langle psstyle \rangle$

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

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 $\langle psstyle \rangle$

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

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 $\langle psstyle \rangle$   
PiezoMirror $\langle psstyle \rangle$   
SemitransMirror $\langle psstyle \rangle$

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

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  $\langle dimen \rangle$

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

prismsize= $\langle num \rangle$   
prismangle= $\langle num \rangle$   
prismtype=transmittive, reflective  
prismalign=auto, center

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

raprismsize= $\langle num \rangle$

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

## Fiber components

usefiberstyle=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>*}  
 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>*}  
 fdlsiz=*<num>* or *<width>* *<height>*  
 FdlArrow*<psstyle>*

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

**\optcirculator**(*<left>*)(*<right>*)(*<bottom>*){*<label>*}  
 optcircsize=*<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

**\oenodeIfc**{*<num>*}{*<comp>*}  
**\oenodeIn**{*<comp>*}  
**\oenodeOut**{*<comp>*}  
**\oenodeRotref**{*<comp>*}  
**\oenodeBeam**{*<num>*}  
**\oenodeBeamUp**{*<num>*}  
**\oenodeBeamLow**{*<num>*}  
**\oeBeamVec**{*<num>*}  
**\oeBeamVecUp**{*<num>*}  
**\oeBeamVecLow**{*<num>*}

## Connecting components

**\drawbeam**[*<options>*]{*<obj<sub>1</sub>>*}{*<obj<sub>2</sub>>*}...  
 raytrace=true, false  
 useNA=true, false  
 n=*<code>*  
 beampos=[*<x>* ]*<y>*  
 beamangle=*<pscode>*  
 beamalign=rel, relative, abs, absolute

```

beampathskip= $\langle num \rangle$ 
beaminside=true, false
beaminsidefirst=true, false
beaminsidelast=true, false
allowbeaminside=true, false
forcebeaminside=true, false

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

\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
  loadbeam=true, false
  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}...\end{optexp}
```

```
\backlayer{ $\langle code \rangle$ }
```

```
\frontlayer{ $\langle code \rangle$ }
```

## Custom components

```
\optdipole[ $\langle opt \rangle$ ]( $\langle in \rangle$ )( $\langle out \rangle$ ){ $\langle label \rangle$ }
```

```
\opttripole[ $\langle opt \rangle$ ]( $\langle in \rangle$ )( $\langle center \rangle$ )( $\langle out \rangle$ ){ $\langle label \rangle$ }
```

```
optdipolesize= $\langle width \rangle$ [  $\langle height \rangle$ ]
```

```
\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 $\langle psstyle \rangle$ 
```