Abstract

\texttt{pst-grad} is also one of the older and smaller packages. It provides only one fill style. A gradient could be created with the macros known from \texttt{PSTricks}, too, the use of \texttt{pst-grad} offers advantages though, since one does not need to take care of the calculation of the intermediate colour values.

This version of \texttt{pst-grad} integrates the function of the \texttt{pst-ghsb} package, which supports the HSB color model.

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*Thanks to Lars Kotthoff and Angelo Rossi for translating this documentation!
1 Introduction

All parameters are only available when \texttt{gradient} is used as fill style. There are further packages which support such fill styles, especially for circular gradients (\texttt{pst-slpe}).

2 Parameters

Table 1 shows a compilation of the special parameters valid for \texttt{pst-grad}.

Table 1: Summary of all parameters for \texttt{pst-grad} and \texttt{pst-ghsb}

<table>
<thead>
<tr>
<th>name</th>
<th>values</th>
<th>default</th>
</tr>
</thead>
<tbody>
<tr>
<td>gradbegin</td>
<td>&lt;colour&gt;</td>
<td>gradbegin</td>
</tr>
<tr>
<td>gradend</td>
<td>&lt;colour&gt;</td>
<td>gradend</td>
</tr>
<tr>
<td>gradlines</td>
<td>&lt;value&gt;</td>
<td>500</td>
</tr>
<tr>
<td>gradmidpoint</td>
<td>&lt;value&gt;</td>
<td>0.9</td>
</tr>
<tr>
<td>gradangle</td>
<td>&lt;angle&gt;</td>
<td>0</td>
</tr>
<tr>
<td>gradientHSB</td>
<td>false</td>
<td>true</td>
</tr>
<tr>
<td>GradientCircle</td>
<td>false</td>
<td>true</td>
</tr>
<tr>
<td>GradientScale</td>
<td>&lt;value&gt;</td>
<td>1.0</td>
</tr>
<tr>
<td>GradientPos</td>
<td>&lt;(x,y)&gt;</td>
<td>(0,0)</td>
</tr>
</tbody>
</table>

2.1 gradbegin

\texttt{gradbegin} denotes the parameter as well as the starting colour, which is a little bit confusing here.

\newrgbcolor{gradbegin}{0 .1 .95} % default

Consequently this starting colour can be changed by redefining the colour or by an assignment through the parameter.

\newrgbcolor{gradbegin}{0 0 1}
\definecolor{rgb}{gradbegin}{0 0 1} % requires color/xcolor package
\psset{gradbegin=blue}

\begin{pspicture}(5,3.5)
\psframe[fillstyle=gradient,gradbegin=white](5,1.5)
\newrgbcolor{gradbegin}{0 1 1}
\psframe[fillstyle=gradient](0,2)(5,3.5)
\end{pspicture}
• \texttt{gradbegin} should be defined as RGB colour, since a faultless function for CMYK or gray scales is not warranted in every case.

• ConTeXt users change the colour with
  \texttt{\definecolor{rgb}{gradbegin}\{r=0,g=0,b=1\}}

2.2 \texttt{gradend}

\texttt{gradend} is not the counterpart to \texttt{gradbegin}, for it is the colour which is reached at the relative point \texttt{gridmidpoint}. In every case it is ambiguous as \texttt{gradbegin} again.

\texttt{\newrgbcolor{gradend}\{0 1 1\} \% default}

Changes can be made differently again.

\texttt{\newrgbcolor{gradend}\{1 0 0\}}
\texttt{\definecolor{rgb}{gradend}\{1 0 0\} \% requires color/xcolor package}
\texttt{\psset{gradend=red}}

\begin{pspicture}(5,3.5)
\psframe[fillstyle=gradient,gradend=white](5,1.5)
\newrgbcolor{gradend}\{1 0 0\}
\psframe[fillstyle=gradient](0,2)(5,3.5)
\end{pspicture}

• \texttt{gradend} should be defined as RGB colour, since a faultless function for CMYK or gray scales is not warranted in every case.

• ConTeXt users change the colour with
  \texttt{\definecolor{rgb}{gradend}\{r=1,g=1,b=0\}}

2.3 \texttt{gradlines}

A gradient is nothing but a string of coloured lines. The width of those depends only on the resolution of the monitor resp. the printer in the end. But since this is very user-specific, \texttt{pst-grad} allows any number of lines, which can be changed through \texttt{gradlines}.
2.4 gradmidpoint

Denotes the relative point where the colour \textit{gradend} is reached. Then it is proceeded in reverse order.

2.5 gradangle

\textit{gradangle} determines the gradient angle of the straight line.

2.6 GradientCircle, GradientScale and GradientPos

With the option \texttt{GradientCircle} circular gradients can be created. The radius can be influenced through \texttt{GradientScale} and the centre with \texttt{GradientPos}. The specification of the coordinates refers to the based coordinate system, which is given by the \texttt{pspicture} environment as a rule.
Figure 1: Shadow games...
2.7 GradientHSB

\newcommand{Fig}{\begin{pspicture}(5.5,5.5)
 \psframe[#1](5,5)
\end{pspicture}}

\newhsbcolor{ColorA}{0 0 0.7}
\newhsbcolor{ColorB}{0 1 0.7}
\newhsbcolor{ColorC}{.5 0.8 0}
\newhsbcolor{ColorD}{.5 0.8 1}
\psset{fillstyle=gradient,gradientHSB=true}

\Fig[gradmidpoint=1,gradbegin=ColorA,gradend=ColorB]
\Fig[gradmidpoint=0.5,gradbegin=ColorC,gradend=ColorD]
\begin{document}
\definecolor{ColorA}{hsb}{0.7, 0.1, 0.8}
\definecolor{ColorB}{hsb}{0.7, 0.9, 0.8}
\definecolor{ColorC}{hsb}{0, 0, 0}
\definecolor{ColorD}{hsb}{0, 0, 1}
\definecolor{ColorE}{hsb}{0, 0, 0.5}
\definecolor{ColorF}{hsb}{0, 1, 0.5}
\definecolor{ColorG}{hsb}{0, 0, 0.5}
\definecolor{ColorH}{hsb}{0.99999, 0, 0.5} % As it's cyclic 1=0 !
\definecolor{ColorI}{hsb}{1, 1, 1}
\definecolor{ColorJ}{hsb}{1, 1, 1}
\definecolor{ColorK}{hsb}{0.99999, 1, 1} % As it's cyclic 1=0 !
\definecolor{ColorL}{hsb}{0.99999, 1, 1} % As it's cyclic 1=0 !
\definecolor{ColorM}{hsb}{0, 0, 1}
\definecolor{ColorN}{hsb}{0, 0, 1}
\definecolor{ColorO}{hsb}{0, 0.6, 0.7} % As it's cyclic 1=0 !
\definecolor{ColorP}{hsb}{0.99999, 0.7, 0.7} % As it's cyclic 1=0 !
\definecolor{ColorQ}{hsb}{0.3, 0, 0.8}
\definecolor{ColorR}{hsb}{0.3, 1, 0.8}
\definecolor{ColorS}{hsb}{0.6, 0.3, 0}
\definecolor{ColorT}{hsb}{0.6, 0.3, 1}
\psset{fillstyle=gradient,gradmidpoint=1}
\begin{figure}[h]
\begin{pspicture}(0,0)(10,10)
\psgrad{ColorA}{ColorB}
\psgrad{ColorC}{ColorD}
\psgrad{ColorE}{ColorF}
\psgrad{ColorG}{ColorH}
\psgrad{ColorI}{ColorJ}
\psgrad{ColorK}{ColorL}
\psgrad{ColorM}{ColorN}
\psgrad{ColorO}{ColorP}
\psgrad{ColorQ}{ColorR}
\psgrad{ColorS}{ColorT}
\end{pspicture}
\end{figure}
\end{document}
\Fig[gradbegin=green,gradend=yellow]
\psset{gradientHSB=true}
\Fig[gradbegin=ColorC,gradend=ColorD]
\Fig[gradbegin=ColorE,gradend=ColorF]
\Fig[gradbegin=ColorG,gradend=ColorH]
\Fig[gradbegin=ColorI,gradend=ColorJ]
\Fig[gradbegin=ColorK,gradend=ColorL]
\Fig[gradbegin=ColorM,gradend=ColorN]
\Fig[gradbegin=ColorO,gradend=ColorP]
\Fig[gradbegin=ColorQ,gradend=ColorR]
\Fig[gradbegin=ColorS,gradend=ColorT]

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