

Optimizing Unit Values

Herbert Voß
voss@perce.de

July 27, 2003

Original Size

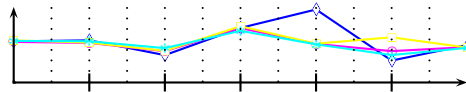


Figure 1: The Chart with the default Units

```
1 \begin{pspicture}(-0.25,-0.2)(6,1)
2 \psline[showpoints=true, dotstyle=diamond, linecolor=blue]%
3 (0, 0.544)(1., 0.558)(2.,0.362)(3., 0.722)(4., 0.966)(5., 0.290)(6., 0.496)
4 \psline[showpoints=true, dotstyle=oplus, linecolor=magenta]
5 (0,0.537)(1., 0.524)(2., 0.414)(3., 0.720)(4., 0.510)(5.,0.415)(6., 0.468)
6 \psline[showpoints=true, dotstyle=square, linecolor=yellow]%
7 (0, 0.557)(1., 0.528)(2., 0.419)(3.,0.744)(4., 0.514)(5., 0.598)(6., 0.462)
8 \psline[showpoints=true, dotstyle=asterisk, linecolor=cyan]%
9 (0,0.550)(1., 0.546)(2., 0.455)(3., 0.684)(4., 0.505)(5.,0.363)(6.,
10 0.458)
11 \psaxes[dx=1,Dx=1, labels=y]{->}(6,1)
12 \multido{\n=0.5+0.5}{12}{\psline[linestyle=dotted](\n,0)(\n,1)}
13 \end{pspicture}
```

Optimized Size

To get an optimized size for the graphic the `yunit` is set to `6cm` and the `xunit` should get a value so that the graphic is exactly like the textwidth. This is better than to resize the graphic with `\resizebox`.

```
1 \dimen1=\textwidth
2 \dimen2=6.25cm% the given width of \pspicture definition
3 \count1=\dimen1
4 \multiply\count1 by 10% für mm
5 \count2=\dimen2
6 \divide\count1 by \count2
7 %\the\count1 mm % der Maßstabsfaktor
8 \begin{figure}[!h]
9 \centering
10 \psset{xunit=\count1 mm, yunit=6cm}
11 \begin{pspicture}(-0.25,-0.2)(6,1)
12 \psline[showpoints=true, dotstyle=diamond, linecolor=blue]%
13 (0, 0.544)(1., 0.558)(2.,0.362)(3., 0.722)(4., 0.966)(5., 0.290)(6., 0.496)
14 \psline[showpoints=true, dotstyle=oplus, linecolor=magenta]
15 (0,0.537)(1., 0.524)(2., 0.414)(3., 0.720)(4., 0.510)(5.,0.415)(6., 0.468)
16 \psline[showpoints=true, dotstyle=square, linecolor=yellow]%
17 (0, 0.557)(1., 0.528)(2., 0.419)(3.,0.744)(4., 0.514)(5., 0.598)(6., 0.462)
18 \psline[showpoints=true, dotstyle=asterisk, linecolor=cyan]%
```

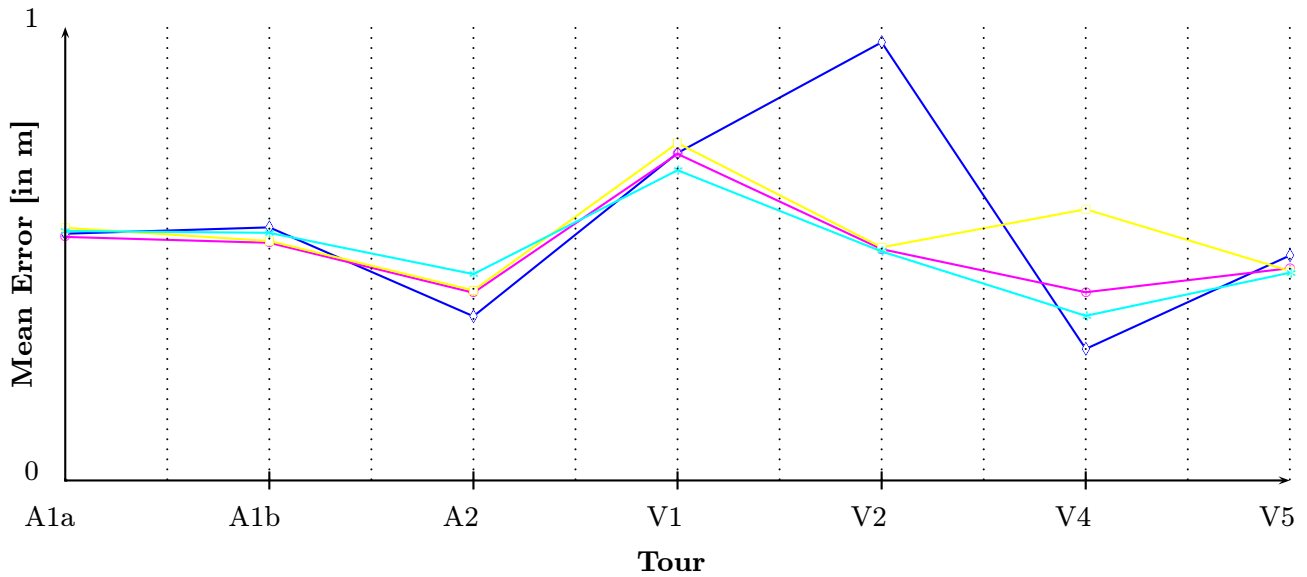


Figure 2: yunit=6cm and xunit depends to the textwidth

```

19      (0,0.550)(1., 0.546)(2., 0.455)(3., 0.684)(4., 0.505)(5.,0.363)(6.,
20 0.458)
21      \psaxes[dx=1,Dx=1,labels=y]{->}(6,1)
22      \multido{\n=0.5+0.5}{12}{\psline[linestyle=dotted](\n,0)(\n,1)}
23      %labels der x-Achse
24      \rput[1b]{0}(-0.2,-0.1){A1a} \rput[1b]{0}(0.8,-0.1){A1b}
25      \rput[1b]{0}(1.85,-0.1){A2} \rput[1b]{0}(2.85,-0.1){V1}
26      \rput[1b]{0}(3.85,-0.1){V2} \rput[1b]{0}(4.85,-0.1){V4}
27      \rput[1b]{0}(5.85,-0.1){V5}
28      %Titel für die x-Achse
29      \rput[1b]{0}(2.8,-0.2){\textbf{Tour}}
30      %labels für die y-Achse
31      \rput[1b]{0}(-0.2,0){0} \rput[1b]{0}(-0.2,1){1}
32      %Titel für die y-Achse
33      \rput{90}(-0.2,0.5){\textbf{Mean Error [in m]}}
34      \end{pspicture}

```

The L^AT_EX-Source is available at <http://www.pstricks.de/Examples/xunit.tex>.