

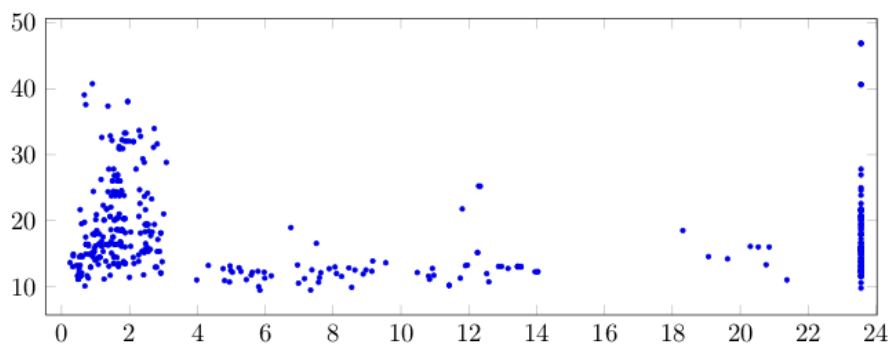
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How to add a jitter to a scatter plot with pgfplots

I have the following scatter plot:

```
\begin{tikzpicture}
  \begin{axis}[
    enlarge x limits=0.02,
    xmin=0,
  ]
    \addplot+[only marks,mark size=1pt] table[x=rmsd,y=seq_score_min]
{\featuretable};
  \end{axis}
\end{tikzpicture}
```



I would like to add a jitter to the marks, i.e. some noise so that one can get a better feeling about the number of marks that would otherwise be placed above each other. In this particular case this is needed for the rightmost values.

{pgfplots}

edited Feb 14 '12 at 15:32



Joseph Wright ♦

142k 12 374 680

asked Feb 14 '12 at 15:29

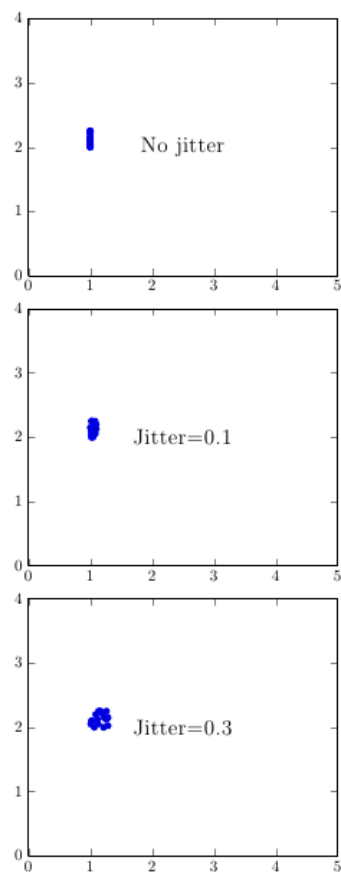


Fabian

384 2 11

2 Answers

You can use an `x filter` to add a bit of random noise to each x coordinate. I've defined a new `jitter` style that takes an optional argument to control the amount of noise:



```

\documentclass{standalone}
\usepackage{pgfplots,pgfplotstable}
\pgfplotstableread{
X   Y
1   2
1   2.1
1   2.05
1   2
1   2.2
1   2.15
1   2.25
1   2.1
1   2.025
1   2.125
1   2.0525
1   2.25
1   2.225
1   2.1525
1   2.2525
1   2.125
}\datatable

\pgfplotsset{
  jitter/.style={
    x filter/.code={\pgfmathparse{\pgfmathresult+rnd*#1}}
  },
  jitter/.default=0.1
}

\begin{document}
\begin{tikzpicture}
\begin{axis}[only marks,ymin=0,ymax=4,xmin=0,xmax=5]
\addplot +[jitter=0.3] table {\datatable};
\end{axis}
\end{tikzpicture}
\end{document}

```



Jake

156k 15 486 629

(+1) Very elegant solution. – chl Feb 14 '12 at 16:23

But I got this error Package pgfplots Error: Could not read table file ' X Y 1 2 1 2.1 1 2.05
1 2 1 2.2 1 2.15 1 2.25 1 2.1 1 2.025 1 2.125 1 2.0525 1 2.25 1 2.225 1 2.1525 1 2. 2525
1 2.125 ' . . – emab Jan 31 '14 at 8:47

Package pgfkeys Error: I do not know the key '/tikz/jitter' and I am going to ignore it.
Perhaps you misspelled it. – emab Jan 31 '14 at 9:05

1 @emab: It's working fine for me. Do you get these error messages when running the code exactly as it is posted here? What version of PGFPlots are you running? – Jake Jan 31 '14 at 9:56

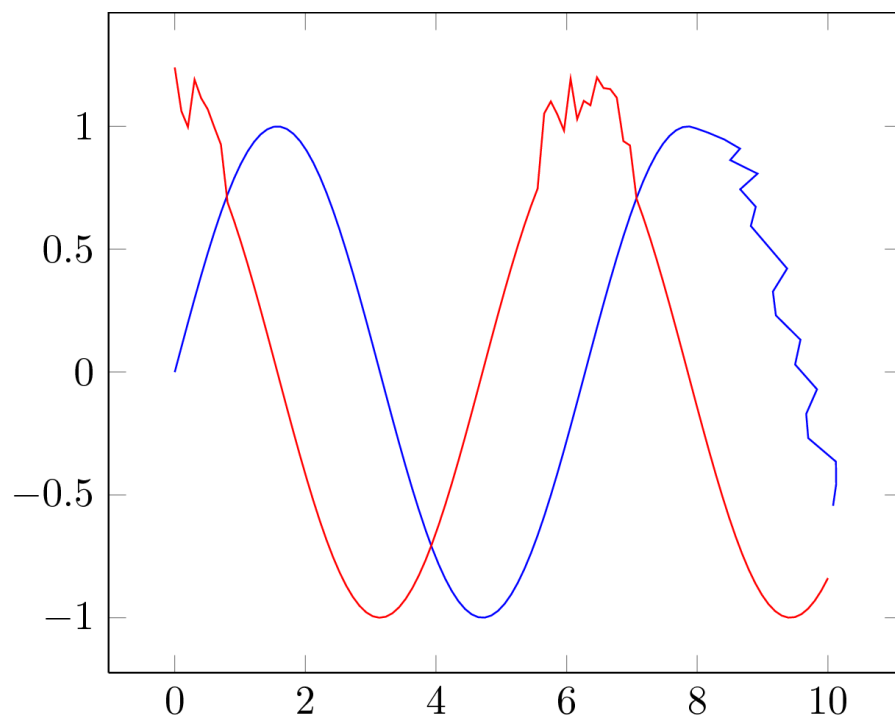
@Jake yes I just copied your code (and changed the document type because I didn't have the standalone style.) pgfplots 2009/02/14 Version 1.2.2 – emab Feb 1 '14 at 5:27

To add *jitter* or noise I would rather do it in another program than `TeX`, however it can be done.

See this code which lets you add noise in the *x* or *y* direction.

```
\documentclass{article}
\usepackage{pgfplots}
\begin{document}
\begin{tikzpicture}
\begin{axis}[domain=0:10,samples=100,
my x filter/.style={%
x filter/.code={%
\def\tmpx{##1}%
\pgfmathparse{\tmpx > 8 ? \tmpx+rnd*#1 : \tmpx}%
}},
my y filter/.style={%
y filter/.code={%
\def\tmpy{##1}
\pgfmathparse{\tmpy > .75 ? \tmpy+rnd*#1 : \tmpy}
}}}
\addplot[blue,my x filter=.5] function {sin(x)};
\addplot[red,my y filter=.1] function {cos(x)};
\end{axis}
\end{tikzpicture}
\end{document}
```

This will produce (not exactly, due to the rand).



answered Feb 14 '12 at 15:51



zeroth

11.9k 2 37 60