

Question: Donald Knuth did a great job designing a system that produces beautiful equations. But sometimes more practical issues arise. Knuth's mathematical typesetting is TOO FAT! The typeset mathematical expressions are too wide. I have many matrices that are three to six or more columns wide, and each entry or element in the matrix is wide. I have to split each element onto two to four lines, and many matrices must additionally be split into two parts. The result is difficult to read. If there were narrower math fonts (like sometimes used for text columns) and smaller spacing between symbols I could reduce some of the stacking that I have to do. Are there narrower math fonts (I use *MathTime Professional*) and easy ways to adjust symbol spacing?

Answer: Saying that TeX's typeset mathematical expressions are too wide is a strange way of putting things, but it is an interesting question how one can handle wide matrices.

1. One possibility, of course, is to typeset the entries of the matrix in `\scriptstyle`. For example,

```
$$\left(\matrix\scriptstyle a+b+c+d+e+f+g \dots\right)$$
```

or in L^AT_EX (requires `\usepackage{amsmath}`)

```
\[
  \left(
    \begin{matrix}
      \scriptstyle a+b+c+d+e+f+g \dots
      \dots
    \end{matrix}\right)
\]
```

will produce a matrix like

$$\left(\begin{matrix} a+b+c+d+e+f+g \\ \dots \end{matrix} \right)$$

with the $a + b + c + d + e + f + g$ smaller.

This is somewhat inconvenient, since it requires putting `\scriptstyle` before each entry. There is also a `\smallmatrix` command that does this automatically, though it also makes the lines closer together, so they would have to be separated manually. (Or one could have someone make a `\smallentrymatrix` that had the same spacing, but typeset the entries in `\scriptstyle` automatically.)

In any case, however, this possibility might be considered unattractive because of the difficulty reading everything in superscript size, or smaller. (If there is something like a `\ninepoint` command, then it might work to set all entries in 9 point type, instead of 10 point type.)

2. A second possibility is to eliminate the extra spacing that goes around binary operators and relations, etc. Replacing `+` with `{+}` will eliminate the spacing around the `+` sign, but applying that throughout would obviously be too tedious. Instead, one can say

```
$$\thinmuskip=0mu \medmuskip=0mu \thickmuskip=0mu \matrixx...$$
```

or in L^AT_EX (requires `\usepackage{amsmath}`)

```
\[
  \thinmuskip=0mu \medmuskip=0mu \thickmuskip=0mu
  \left(
    \begin{matrix}
      a+b+c+d+e+f+g \dots
      \dots
    \end{matrix}\right)
\]
```

