My notes on how to use Tex4ht+MathJax

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1 Call Command

My problem was to make a HTML file with plenty of mathematics from a LaTeX one. As a beginner, I immediately faced the following problems:

- How to run Tex4ht to get HTML file with mathematics?
- What to do to make proper referencing of mathematical formulas?
- How to cope with TikZ figures?

After a while I discovered that the most suitable way for me is to join Tex4ht with MathJax. And the simplest way was to run the following command to process `test.tex` file:

```
make4ht -s test.tex "myconfig" " -cunihtf -utf8"
```

and after that, if one wants to embed into resulted `test.html` the css-file `test.css` generated during previous command, one should issue one the following command

```
htlatex test.tex "myconfig" " -cunihtf -utf8"
```

or once more

```
make4ht -s test.tex "myconfig" " -cunihtf -utf8"
```

where the config file `myconfig.cfg` is as follows

```
\Preamble{xhtml,0,mathjax,p-indent,fn-in}

\Configure{MathjaxBlock}{\ifvmode\IgnorePar\fi\HCode{<span class="mathjax-block">}}{\HCode{</span>}}
\Configure{MathjaxEnv}{\ifvmode\IgnorePar\fi\HCode{<span class="mathjax-env">}}{\HCode{</span>}}

\textwidth=2160pt

\Css{body {margin:5\%; max-width:72em; font-size:large; padding:0 40px;}}
\Css{.thebibliography p.indent {margin-top:1ex; margin-bottom:-1ex; text-indent:1.5em;
    font-size:smaller}}
\Css{.thebibliography dd {margin-top:0; margin-bottom:1em;}}
\Css{.thebibliography dl{grid-auto-columns:1ex 1fr}}
\Css{.thebibliography p.noindent{margin-top:-2ex}}
\Css{.columns-3 p.indent {text-indent:0}}

\def\eqref#1{$\mathrm{(\ref{#1})}$}

\begin{document}

\EndPreamble
```

2 How to reference equations in TeX4ht+MathJax

Unfortunately, it turned out that reference in conjunction TeX4ht+MathJax works well when they referenced sections, subsections and other structure element that are in **text mode**, but when you are trying to reference the label of equation you are getting ???.

The problem is turned out to be rather easily solvable: to reference labels of equations, align or other things in **math mode** you should put the calling `\eqref` or `\ref` in a **math environment**, e.g. by surrounding them by `$'s` or `\(...\)`. Another way is to redefine the command `\eqref` in order that it will be invoked in math mode automatically (see the appropriate string in the config file `myconfig.cfg`.

So, for the LaTeX code below

```
\begin{equation}
\boldsymbol{f}(x)=1\label{eq}
\end{equation}

\[
1\neq1. \tag{OneIsNotOne Condition}\label{E:mycond}
\]

Here, the reference to \tag{OneIsNotOne Condition} in previous
equation is as follows: \eqref{E:mycond}

\begin{align}
a&=1\label{A}\\
b&=0\label{B}
\end{align}
Example of references: we have equation \eqref{eq} from Sec. \ref{S1}. Or $\ref{A}$-\eqref{B}.
```

we obtain the following output:

$$\boldsymbol{f}(x) = 1 \tag{1}$$

$$1 \neq 1. \tag{OneIsNotOne Condition}$$

Here, the reference to `\tag{OneIsNotOne Condition}` in previous equation is as follows: (OneIsNotOne Condition)

$$a = 1 \tag{2}$$
$$b = 0 \tag{3}$$

Example of references: we have equation (1) from Sec. 1. Or 2-(3).

3 How to cope with TikZ figures

Tex4th supports TikZ, however, for correct displaying text and math symbols in TikZ picture, it is needed to put in the preamble of tex file the following lines, before TikZ package loading:

```
\ifdefined\HCode%
   \def\pgfsysdriver{pgfsys-dvisvgm4ht.def}%
\fi%
```

Below is an example of using TikZ.

Citation example: [1].

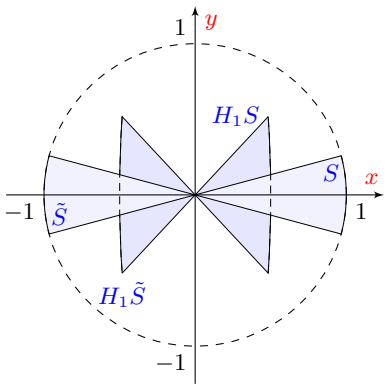

Figure 1: Example of Stanford

References

[1] Al-Nayef A., Diamond P., Kloeden P. et al. Bi-shadowing and delay equations // Dynam. Stability Systems. 1996. Vol. 11, no. 2. P. 121–134.