How to Type Spectral Sequences

Xiong Rui

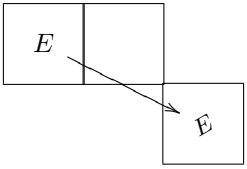
0.1. This document is mainly on how to type spectral sequences in author's notes.

0.2. Firstly, the commands are based on the command `\xymatrix`, thus the package xy is required.

0.3. It defines three commands `\ssmatrix[..]{..}`, `\E{..}` and `\R{..}`. To use `\R{..}` it requires the package graphicx.

0.4. Here is a small example

```
$$\ssmatrix[1pc]{\E{E}\ar[drr]&\E{}\\&&\R{E}}$$
```



The rule is the same as `xymatrix`.

0.5. The code, see next page.

The Colored Version

```
\newdimen\sizeofssmatrix%
%------------------------------%
\newcommand{\ssmatrix}[2][0pc]{%
\let\E\Einssmatrix\let\R\Rinssmatrix%
\setlength{\unitlength}{#1}
\setlength{\sizeofssmatrix}{0.75pc}
\ifdim\unitlength<\sizeofssmatrix%
    \setlength{\unitlength}{0.75pc}%
\else%
   \relax%
\fi%
\setlength{\sizeofssmatrix}{2\unitlength}%
\addtolength{\sizeofssmatrix}{-1.5pc}%
\begin{array}{c}
\rule{0pc}{0.75\unitlength}\\[-2ex]
{\expandafter\xymatrix@!=\sizeofssmatrix{%
#2
}}\\[-2ex]
\rule{0pc}{0.75\unitlength}
\end{array}}
%------------------------------%
\def\Einssmatrix#1{%
\raisebox{0pt}[0.75\unitlength][0.25\unitlength]{\makebox[\unitlength][c
{\color[rgb]{1.00,0.69,0.15}\fbox{\raisebox{0pt}[1.25\unitlength][0.75\u
}}}%
%------------------------------%
\def\Rinssmatrix#1{\E{\rotatebox[origin=b]{30}{\small${#1}$}}}
```

The **Uncolored** Version

```
\newdimen\sizeofssmatrix%
%------------------------------%
\newcommand{\ssmatrix}[2][0pc]{%
\let\E\Einssmatrix\let\R\Rinssmatrix%
\setlength{\unitlength}{#1}
\setlength{\sizeofssmatrix}{0.75pc}
\ifdim\unitlength<\sizeofssmatrix%
    \setlength{\unitlength}{0.75pc}%
\else%
   \relax%
\fi%
\setlength{\sizeofssmatrix}{2\unitlength}%
\addtolength{\sizeofssmatrix}{-1.5pc}%
\begin{array}{c}
\rule{0pc}{0.75\unitlength}\\[-2ex]
{\expandafter\xymatrix@!=\sizeofssmatrix{%
#2
}}\\[-2ex]
\rule{0pc}{0.75\unitlength}
\end{array}}
%------------------------------%
\def\Einssmatrix#1{%
\raisebox{0pt}[0.75\unitlength][0.25\unitlength]{\makebox[\unitlength][c
{\fbox{\raisebox{0pt}[1.25\unitlength][0.75\unitlength]{\makebox[2\unitl
}}}%
%------------------------------%
\def\Rinssmatrix#1{\E{\rotatebox[origin=b]{30}{\small${#1}$}}}
```