Online Reading: two-column landscape format using KOMA-scripts

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2013-Jun-19

Contents

1 Original Motivation

The original motivation came from "*Advocating two-column landscape format for scholarly online articles*".

However, because of typographical issues, among some other, I personally prefer to use the KOMA-scripts. Thus, I just wrote a LaTeX template that suited me better.

2 Text Example: *Lorem Ipsum* and the Balancing of Columns

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu

neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetuer.

Suspendisse vel felis. Ut lorem lorem, interdum eu, tincidunt sit amet, laoreet vitae, arcu. Aenean faucibus pede eu ante. Praesent enim elit, rutrum at, molestie non, nonummy vel, nisl. Ut lectus eros, malesuada sit amet, fermentum eu, sodales cursus, magna. Donec eu purus. Quisque vehicula, urna sed ultricies auctor, pede lorem egestas dui, et convallis elit erat sed nulla. Donec luctus. Curabitur et nunc. Aliquam dolor odio, commodo pretium, ultricies non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare

ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

3 Multimedia Example: 3D Object and Control Toolbar

(brain.u3d)

# 4 Some Itemized Equations for Good Measure, and Some Mathematical Fonts

Before we proceed and show the code used to generate this file, let us create a list with some equations, just to see how things turn out:

- Let us open up the first item in a very cliché fashion with an inline equation: $E^2 = (m\,c^2)^2 + (p\,c)^2 \rightsquigarrow (\Box + m^2)\,\psi = 0$.

- Now we can move on to something more interesting, *e.g.*,

$$\mathscr{Z}(J) = \int e^{i\,S(\phi,J)}\,\mathcal{D}\phi \ ;$$

$$Z_{\mathbb{M}}[\mathfrak{J}] = \int_{\mathbb{M}} e^{i\,S[\boldsymbol{\Phi};\mathfrak{J}]}\,\mathcal{D}\boldsymbol{\Phi} \ .$$

5 Ti*k*Z/PGF Example
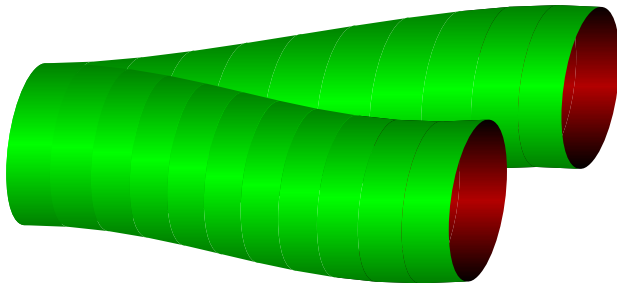
6 Code Used to Generate this File

To compile this file you just need to run `pdflatex` on it as many times as necessary. Also, note that the order of some of the packages is important, for example, `hyperref` should be loaded before `bookmark`. Lastly, in order to access and make use of the multimedia file embedded, you need to use the Adobe Acrobat Reader, for it seems to be the only one that implemented such features.

```
 1 %%%
 2 % BeGiN
 3 % Wed 19 Jun 2013 14:06:02 EDT
 4 %%%
 5 %% Presentation make-shift "class"...
 6 % The paper and font size are chosen as with the 'Beamer' document
 7 % class :: these sizes can be adjusted for various projector
 8 % capabilities, including:
 9 %    (*) 144mm:90mm (16:10),
10 %    (*) 120mm:96mm (16:9),
11 %    (*) 160mm:90mm (HDTV 720p/i),
12 %    (*) 192mm:108mm (HDTV 1080p/i), &
13 %    (*) 128mm:96mm (Beamer's default).
14 %    (*) 216mm:279mm (ANSI A papersize, aka 'letter')
15 \documentclass[        %
16   paper=279mm:216mm,  % 'letter' size paper, landscape mode
17   fontsize=12pt,       % 12pt font selection
18   twoside,
19   pagesize=auto,           % write page size to dvi or pdf
20   version=last,
21   numbers=noendperiod,% removes points for special parts (e.g. appendix)
22   captions=nooneline, % do not distinguish between one or more lines in captions
23   DIV=calc
24 ]{scrartcl}
25 \usepackage{scrpage2}
26 \setkomafont{pagehead}{\normalfont\footnotesize\sffamily\bfseries}
27 \setkomafont{pagenumber}{\normalfont\footnotesize\sffamily\bfseries}
28 \deftripstyle{CPI}[0pt][0.5pt]{\rightmark}{}{\thepage}{}{}{}
29 \pagestyle{CPI}
30 \typearea[current]{calc}
31 \areaset[current]{\textwidth}{\textheight}
32 \usepackage{multicol}    % better column-balancing
33 \setlength{\columnsep}{1cm}
34 \setlength{\columnseprule}{0.4pt}
35 \setlength{\topmargin}{-2cm}
36 \setlength{\oddsidemargin}{0cm}
37 \setlength{\evensidemargin}{\oddsidemargin}
38 %
39 \usepackage{cmap}
40 \usepackage{datetime}
41 \renewcommand{\dateseparator}{-}
42 \settimeformat{hhmmsstime}
43 \newcommand{\todayiso}{\the\year \dateseparator \shortmonthname \dateseparator \twodigit\day}
44 \newcommand{\semver}{[DDF \href{http://semver.org/}{v1.0.0}]}
45 \usepackage{ae,aecompl,aeguill}
46 \usepackage{fix-cm}
47 \usepackage{lmodern}          % latin modern font
48 \usepackage[T1]{fontenc} % for correct hyphenation and T1 encoding
49 \usepackage[protrusion=true,expansion=false]{microtype} % for character protrusion and font expansion (only with pdflatex)
```

```
 50 \usepackage[raise]{engord}
 51 \usepackage{ucs}
 52 \usepackage[utf8x]{inputenc}
 53 \usepackage[x11names]{xcolor}
 54 \usepackage{graphicx}
 55 \usepackage{csquotes} % for inline quotations
 56 \usepackage{ccicons}  % for CC licenses
 57 \usepackage{tikz}      % sophisticated graphics package
 58 \usepackage{mathtools}
 59 \usepackage{dsfont,amstext,amssymb,amsbsy,amsopn,amsthm}
 60 \usepackage[charter]{mathdesign}
 61 \renewcommand{\sfdefault}{fvs}
 62 \renewcommand{\ttdefault}{fvm}
 63 \DeclareMathAlphabet{\mathpzc}{T1}{pzc}{m}{it}   % $\mathpzc{F}$
 64 % \usepackage{bm}         % for bold math symbols
 65 \usepackage{eucal}
 66 \usepackage{empheq}
 67 \usepackage{pifont}
 68 \usepackage{textcomp}
 69 \usepackage{wasysym}
 70 \usepackage{calc}  % working with lengths, counters etc.
 71 \usepackage[          %
 72   includeheadfoot, %
 73   vmargin=1cm,      %
 74   hmargin=2cm       %
 75 ]{geometry}          % set page layout parameters
 76 \usepackage[3D]{movie15}
 77 \usepackage{xkeyval}
 78 \usepackage{lipsum}     % just some lorem-ipsum text filling
 79 \usepackage{fancyvrb}
 80 \usepackage[colorlinks=true,urlcolor=RoyalBlue3,linkcolor=OrangeRed3,citecolor=SpringGreen3,linktocpage=true]{hyperref}
 81 \hypersetup{
 82   pdftitle    = {Digital Reading: two-column landscape format using KOMA scripts},
 83   pdfauthor   = {D.D. Ferrante <danieldf@het.brown.edu>},
 84   pdfsubject  = {eReading},
 85   pdfcreator  = {LaTeX2e with hyperref package},
 86   pdfproducer = {pdflatex},
 87   pdfkeywords = {Open Access, Open, Access, eReader, Digital, Reading, Online, LaTeX, KOMA},
 88   pdfview = {FitH},
 89   pdflang = {en_US}
 90 }
 91 \usepackage{bookmark}
 92 \usepackage{cite}
 93 %
 94 %% extensible '=' sign ::  \stakrel{\text{definition}}{\hbox{\equalsfill}}
 95 \makeatletter
 96 \def\equalsfill{$\m@th\mathord=\mkern-7mu
 97   \cleaders\hbox{$\!\mathord=\!$}\hfill
 98   \mkern-7mu\mathord=$}
 99 \makeatother
100 %% Hooked Square Root sign...
101 \def\hksqrt{\mathpalette\DHLhksqrt}
102 \def\DHLhksqrt#1#2{\setbox0=\hbox{$#1\sqrt{#2\,},$}\dimen0=\ht0
103   \advance\dimen0-0.2\ht0
104   \setbox2=\hbox{\vrule height\ht0 depth -\dimen0}%
105 {\box0\lower0.4pt\box2}}
106 %
107 \title{Online Reading: two-column landscape format using KOMA-scripts}
108 \author{\sffamily Daniel D. Ferrante\footnote{
109   \href{http://www.het.brown.edu/people/danieldf/}{\copyright}\; \semver\,,\;
110   \href{http://creativecommons.org/licenses/by-nc-sa/3.0/}{\ccbyncsa}\,.}}
111 \date{\sffamily\todayiso}
112 %
113 %%
114 \begin{document}
115 %
```

```
116 \maketitle
117 %
118 \begin{multicols}{2}
119   \tableofcontents
120
121
122   \section{Original Motivation}
123   The original motivation came from
124   ''\href{http://scholardox.wordpress.com/2013/05/29/two-column-landscape-should-be-the-standard-format-of-scholarly-online-a
125     {\emph{Advocating two-column landscape format for scholarly online articles}}''.
126
127   However, because of typographical issues, among some other, I personally prefer
128   to use the \href{http://www.ctan.org/pkg/koma-script}{KOMA-scripts}. Thus, I
129   just wrote a \LaTeX\/ template that suited me better.
130
131
132   \section{Text Example: \textit{Lorem Ipsum} and the Balancing of Columns}
133
134   \lipsum
135
136
137   \section{Multimedia Example: 3D Object and Control Toolbar}
138
139   \includemovie[     %
140     poster,          %
141     toolbar,         % same as 'controls'
142     label=brain.u3d, %
143     text=(brain.u3d),%
144     3Daac=60.000000, 3Droll=0.000000, 3Dc2c=-143.000000 -703.200012 -255.500000, 3Droo=761.721436, %
145     3Dcoo=-143.000000 101.000000 255.500000, 3Dlights=CAD %
146   ]{\linewidth}{\linewidth}{brain.u3d}
147
148
149   \section{Some Itemized Equations for Good Measure, and Some Mathematical Fonts}
150
151   Before we proceed and show the code used to generate this file, let us create
152   a list with some equations, just to see how things turn out:
153   \begin{itemize}
154   \item Let us open up the first item in a very cliché fashion with an inline
155     equation: $E^2 = (m\, c^2)^2 + (p\, c)^2 \rightsquigarrow (\Box + m^2)\, \psi = 0$.
156   \item Now we can move on to something more interesting, \emph{e.g.},
157     \begin{align*}
158       \mathscr{Z}(J) &= \int e^{i\, S(\phi,\, J)}\, \mathcal{D}\phi \;;\\
159       \mathpzc{Z}{}_{\mathds{M}}[\mathfrak{J}]&= \varint_{\mathds{M}}
160       e^{i\, S[\boldsymbol{\Phi};\, \mathfrak{J}]}\, \mathpzc{D}\boldsymbol{\Phi}\;.
161     \end{align*}
162   \end{itemize}
163
164
165   \section{Ti\emph{k}Z/PGF Example}
166
167 \begin{center}
168 \begin{tikzpicture}[scale=1]
169 \foreach \t in {0,0.1,....,.8} {
170 \pgfmathsetmacro\x{6*\t^3 + 4 * 3 * \t^2*(1 - \t) + 2 * 3 * \t * (1 -\t)^2 + 0 * (1 - \t)^3}
171 \pgfmathsetmacro\z{1*\t^3 + 1 * 3 * \t^2*(1 - \t) + -1 * 3 * \t * (1 -\t)^2 + -1 * (1 - \t)^3 + 2}
172 \pgfmathsetmacro\tt{\t+.1}
173 \pgfmathsetmacro\xx{6*\tt^3 + 4 * 3 * \tt^2*(1 - \tt) + 2 * 3 * \tt * (1 -\tt)^2 + 0 * (1 - \tt)^3}
174 \pgfmathsetmacro\zz{1*\tt^3 + 1 * 3 * \tt^2*(1 - \tt) + -1 * 3 * \tt * (1 -\tt)^2 + -1 * (1 - \tt)^3 + 2}
175 % If second control is relative, it is relative to second end point!
176 \path[shade=axis, top color=green!50!black, bottom color=green!50!black, middle color=green]
177 (\xx,0,-\zz)
178 .. controls +(0,-.417,0) and +(0,.155,.387) ..
179 ++(0,-0.928,-0.629)
180 -- (\x, -0.928,-\z-.629)
181 .. controls +(0,.155,.387) and +(0,-.417,0) ..
```

```
182  ++(0,.928,.629)
183  .. controls +(0,.555,0) and +(0,0,.555) ..
184  ++(0,1,-1)
185  .. controls +(0,0,-.139) and +(0,.0516,.129) ..
186  ++(0,-.072,.371)
187  -- (\xx,0.928,-\zz-2+.629)
188  .. controls +(0,.0516,.129) and +(0,0,-.139) ..
189  ++(0,.072,.371)
190  .. controls +(0,0,.555) and +(0,.555,0) ..
191  ++(0,-1,1);
192
193  \pgfmathsetmacro{\zz}{-\zz+2}
194  \pgfmathsetmacro{\z}{-\z+2}
195  \path[shade=axis, top color=green!50!black, bottom color=green!50!black, middle color=green]
196  (\xx,0,-\zz)
197  .. controls +(0,-.417,0) and +(0,.155,.387) ..
198  ++(0,-0.928,-0.629)
199  -- (\x, -0.928,-\z-.629)
200  .. controls +(0,.155,.387) and +(0,-.417,0) ..
201  ++(0,.928,.629)
202  .. controls +(0,.555,0) and +(0,0,.555) ..
203  ++(0,1,-1)
204  .. controls +(0,0,-.139) and +(0,.0516,.129) ..
205  ++(0,-.072,-.371)
206  -- (\xx,0.928,-\zz-2+.629)
207  .. controls +(0,.0516,.129) and +(0,0,-.139) ..
208  ++(0,.072,.371)
209  .. controls +(0,0,.555) and +(0,.555,0) ..
210  ++(0,-1,1);
211  }
212  \foreach \t in {0.8,0.9,...,1} {
213  \pgfmathsetmacro\x{6*\t^3 + 4 * 3 * \t^2*(1 - \t) + 2 * 3 * \t * (1 -\t)^2 + 0 * (1 - \t)^3}
214  \pgfmathsetmacro\z{1*\t^3 + 1 * 3 * \t^2*(1 - \t) + -1 * 3 * \t * (1 -\t)^2 + -1 * (1 - \t)^3 + 2}
215  \pgfmathsetmacro\tt{\t+.1}
216  \pgfmathsetmacro\xx{6*\tt^3 + 4 * 3 * \tt^2*(1 - \tt) + 2 * 3 * \tt * (1 -\tt)^2 + 0 * (1 - \tt)^3}
217  \pgfmathsetmacro\zz{1*\tt^3 + 1 * 3 * \tt^2*(1 - \tt) + -1 * 3 * \tt * (1 -\tt)^2 + -1 * (1 - \tt)^3 + 2}
218  %\path[shade=axis, top color=red, bottom color=black]
219  % If second control is relative, it is relative to second end point!
220  \path[shade=axis, top color=black, bottom color=black, middle color=red!70!black]
221  (\xx,0,-\zz-2)
222  .. controls +(0,-.555,0) and +(0,0,-.555) ..
223  ++(0,-1,1)
224  .. controls +(0,0,.139) and +(0,-.0516,-.129) ..
225  ++(0,.072,.371)
226  -- (\x,-0.928,-\z-.629)
227  .. controls +(0,-.0516,-.129) and +(0,0,.139) ..
228  ++(0,-.072,.371)
229  .. controls +(0,0,-.555) and +(0,-.555,0) ..
230  ++(0,1,-1)
231  .. controls +(0,+.417,0) and +(0,-.155,-.387) ..
232  ++(0,+0.928,+0.629)
233  -- (\xx, +0.928,-\zz-2+.629)
234  .. controls +(0,-.155,-.387) and +(0,.417,0) ..
235  ++(0,-.928,-.629)
236  -- (\xx,0,-\zz-2);
237  \path[shade=axis, top color=green!50!black, bottom color=green!50!black, middle color=green]
238  (\xx,0,-\zz)
239  .. controls +(0,-.417,0) and +(0,.155,.387) ..
240  ++(0,-0.928,-0.629)
241  -- (\x, -0.928,-\z-.629)
242  .. controls +(0,.155,.387) and +(0,-.417,0) ..
243  ++(0,.928,.629)
244  .. controls +(0,.555,0) and +(0,0,.555) ..
245  ++(0,1,-1)
246  .. controls +(0,0,-.139) and +(0,.0516,.129) ..
247  ++(0,-.072,-.371)
248  -- (\xx,0.928,-\zz-2+.629)
249  .. controls +(0,.0516,.129) and +(0,0,-.139) ..
250  ++(0,.072,.371)
251  .. controls +(0,0,.555) and +(0,.555,0) ..
252  ++(0,-1,1);
253
254  \pgfmathsetmacro{\zz}{-\zz+2}
255  \pgfmathsetmacro{\z}{-\z+2}
256  % If second control is relative, it is relative to second end point!
257  \path[shade=axis, top color=black, bottom color=black, middle color=red!70!black]
258  (\xx,0,-\zz-2)
259  .. controls +(0,-.555,0) and +(0,0,-.555) ..
260  ++(0,-1,1)
261  .. controls +(0,0,.139) and +(0,-.0516,-.129) ..
262  ++(0,.072,.371)
263  -- (\x,-0.928,-\z-.629)
264  .. controls +(0,-.0516,-.129) and +(0,0,.139) ..
265  ++(0,-.072,-.371)
266  .. controls +(0,0,-.555) and +(0,-.555,0) ..
267  ++(0,1,-1)
268  .. controls +(0,+.417,0) and +(0,-.155,-.387) ..
269  ++(0,+0.928,+0.629)
270  -- (\xx, +0.928,-\zz-2+.629)
271  .. controls +(0,-.155,-.387) and +(0,.417,0) ..
272  ++(0,-.928,-.629)
273  -- (\xx,0,-\zz-2);
274  \path[shade=axis, top color=green!50!black, bottom color=green!50!black, middle color=green]
275  (\xx,0,-\zz)
276  .. controls +(0,-.417,0) and +(0,.155,.387) ..
277  ++(0,-0.928,-0.629)
278  -- (\x, -0.928,-\z-.629)
279  .. controls +(0,.155,.387) and +(0,-.417,0) ..
280  ++(0,.928,.629)
281  .. controls +(0,.555,0) and +(0,0,.555) ..
282  ++(0,1,-1)
283  .. controls +(0,0,-.139) and +(0,.0516,.129) ..
284  ++(0,-.072,-.371)
285  -- (\xx,0.928,-\zz-2+.629)
286  .. controls +(0,.0516,.129) and +(0,0,-.139) ..
287  ++(0,.072,.371)
288  .. controls +(0,0,.555) and +(0,.555,0) ..
289  ++(0,-1,1);
290  }
291  \end{tikzpicture}
292  \end{center}
293
294
295  \section{Code Used to Generate this File}
296
297  To compile this file you just need to run \texttt{pdflatex} on it as many
298  times as necessary. Also, note that the order of some of the packages is
299  important, for example, \texttt{hyperref} should be loaded before
300  \texttt{bookmark}. Lastly, in order to access and make use of the multimedia
301  file embedded, you need to use the \href{http://get.adobe.com/reader/}
302  {Adobe Acrobat Reader}, for it seems to be the only one that implemented such
303  features.
304
305  \fvset{fontsize=\tiny,numbers=left,numbersep=2pt}
306  \VerbatimInput{brain.tex}
307  \end{multicols}
308  %
309  %
310  \end{document}
311  %%%
312  % eNd
313  %%%
314
```