

The ejpecp class*

K. Burdzy D. Chafai

September 6, 2016

1 Introduction

The *ejpecp* L^AT_EX 2_ε class is designed for the typesetting of articles for the mathematical research periodicals Electronic Journal or Probability (EJP) and Electronic Communications in Probability (ECP).

2 Usage

This class works only with the pdf_latex engine. See the sample file for its usage.

3 Implementation

```
1 %% We declare and handle our class options
2 \DeclareOption{EJP}{%
3   \newcommand{\@EJP}{}
4   \newcommand{\@JOURNAL}{EJP}
5   \newcommand{\@JOURNALA}{Electron. J. Probab.}
6   \newcommand{\@JOURNALL}{Electronic Journal of Probability}
7   \newcommand{\@ISSN}{1083-6489}
8   \newcommand{\@URL}{www.imstat.org/ejp}
9 }
10 \DeclareOption{ECP}{%
11   \newcommand{\@ECP}{}
12   \newcommand{\@JOURNAL}{ECP}
13   \newcommand{\@JOURNALA}{Electron. Commun. Probab.}
14   \newcommand{\@JOURNALL}{Electronic Communications in Probability}
15   \newcommand{\@ISSN}{1083-589X}
16   \newcommand{\@URL}{www.imstat.org/ecp}
17 }
18 \DeclareOption{NOAMS}{% prevents the load of AMS packages
19   \newcommand{\@NOAMS}{}
20 }
21 \DeclareOption{NODS}{% asks to avoid renaming \mathbb into \mathds
22   \newcommand{\@NODS}{}
23 }
24 \DeclareOption{PSTRICKS}{% pstricks and pspicture.
25   % File must be compiled with "latex --shell-escape", then use dvipdf
26   \newcommand{\@PSTRICKS}{}
27 }
28 \DeclareOption{draft}{%
29   \PassOptionsToClass{draft}{article}
30 }
31 \DeclareOption{final}{%
32   \PassOptionsToClass{final}{article}
33 }
34 \DeclareOption*{%
35   \PackageWarning{ejpecp}{Unknown option \CurrentOption}%
```

*.dtx ejpecp file v1.5 dated 2016/09/06.

```

36 }
37 %\ExecuteOptions{EJP}
38 \ProcessOptions\relax
39 %% We use the standard article class
40 \LoadClass[a4paper,10pt,twoside]{article}
41 %% Packages and their options
42 \ifx\@PSTRICKS\undefined
43 \RequirePackage[pdftex]{graphicx}
44 \DeclareGraphicsExtensions{.pdf,.PDF,.eps,.EPS,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}
45 \else
46 \RequirePackage{graphicx}
47 \RequirePackage[pdf]{pstricks}
48 \RequirePackage{auto-pst-pdf}
49 \fi
50 \RequirePackage{mathtools}
51 \RequirePackage{fixltx2e}
52 \RequirePackage{microtype}
53 \RequirePackage{lastpage}
54 \RequirePackage{latexsym}
55 \ifx\@NODS\undefined
56 \RequirePackage{dsfont}
57 \fi
58 \ifx\@NOAMS\undefined
59 \RequirePackage{amsmath,amsfonts,amssymb,amsthm}
60 \fi
61 \RequirePackage{geometry}
62 \geometry[a4paper,portrait,left=3.5cm,right=3.5cm,top=3.5cm,bottom=3.5cm]
63 %\RequirePackage{charter} % Ph. Carmona
64 \RequirePackage{bera} % beware that the logo is sensitive to default font change
65 \ifx\@PSTRICKS\undefined
66 \RequirePackage[pdftex,pagebackref=false]{hyperref}
67 \else
68 \RequirePackage[pagebackref=false]{hyperref}
69 \fi
70 \hypersetup{pdfborder=0 0 0}
71 \hypersetup{pdfstartview={FitH}}
72 \hypersetup{hypertexnames=false}
73 %%% Macros et Environments
74 %% General macros
75 \newcommand{\@TITLE}{FIXME!}
76 \newcommand{\@SHORTTITLE}{FIXME!}
77 \newcommand{\@KEYWORDS}{FIXME!}
78 \newcommand{\@AMSSUBJ}{FIXME!}
79 \newcommand{\@ABSTRACT}{FIXME!}
80 \newcommand{\@VOLUME}{0}
81 \newcommand{\@PAPERNUM}{0}
82 \newcommand{\@YEAR}{2012}
83 \newcommand{\@PAGESTART}{1}
84 \newcommand{\@PAGEEND}{\pageref{LastPage}} % using lastpage package
85 \newcommand{\@SUBMITTED}{FIXME!}
86 \newcommand{\@ACCEPTED}{FIXME!}
87 \newcommand{\TITLE}[1]{\renewcommand{\@TITLE}{#1}}
88 \newcommand{\SHORTTITLE}[1]{\renewcommand{\@SHORTTITLE}{#1}}
89 \newcommand{\DEDICATORY}[1]{\gdef\@DEDICATORY{#1}}
90 \newcommand{\AUTHORS}[1]{\author{#1}}
91 \newcommand{\KEYWORDS}[1]{\renewcommand{\@KEYWORDS}{#1}}
92 \newcommand{\AMSSUBJ}[1]{\renewcommand{\@AMSSUBJ}{#1}}
93 \newcommand{\AMSSUBJSECONDARY}[1]{\gdef\@AMSSUBJSECONDARY{#1}}
94 \newcommand{\ABSTRACT}[1]{\renewcommand{\@ABSTRACT}{#1}}
95 \newcommand{\VOLUME}[1]{\renewcommand{\@VOLUME}{#1}}
96 \newcommand{\PAPERNUM}[1]{\renewcommand{\@PAPERNUM}{#1}}
97 \newcommand{\YEAR}[1]{\renewcommand{\@YEAR}{#1}}
98 \newcommand{\PAGESTART}[1]{\renewcommand{\@PAGESTART}{#1}}

```

```

99 \newcommand{\PAGEEND}[1]{\renewcommand{\@PAGEEND}{#1}}
100 \newcommand{\SUBMITTED}[1]{\renewcommand{\@SUBMITTED}{#1}}
101 \newcommand{\ACCEPTED}[1]{\renewcommand{\@ACCEPTED}{#1}}
102 \newcommand{\DOI}[1]{\gdef\@DOI{#1}}
103 \newcommand{\ARXIVID}[1]{\gdef\@ARXIVID{#1}}
104 \newcommand{\HALID}[1]{\gdef\@HALID{#1}}
105 \newcommand{\ACKNO}[1]{\noindent\textbf{Acknowledgments.} #1}
106 \def\EMAIL#1{E-mail:~\texttt{\href{mailto:#1}{\nolinkurl{#1}}}}
107 \newcommand{\BEMAIL}[1]{\newline\hspace*{1.8em}\EMAIL{#1}} % useful in ftnotes
108 %% Logos
109 \newcommand{\@EJPLOGO}{% designed by KB.
110 % This version is for bera 10pt (depends on the font via "em" and "ex")
111 \centerline{%
112 \hbox{%
113 \vrule height -0.4 pt depth 0.8 pt width 27.7 em\space
114 \kern -27.8 em\space
115 \raise 0.03ex \hbox {\bf E}\space
116 \raise 0.06ex \hbox {l}\space
117 \raise .13ex \hbox {e}\space
118 \raise .24ex \hbox {c}\space
119 \raise .45ex \hbox {t}\space
120 \raise .78ex \hbox {r}\space
121 \raise 1.31ex \hbox {o}\space
122 \raise 2.08ex \hbox {n}\space
123 \raise 3.14ex \hbox {i}\space
124 \raise 4.53ex \hbox {c}\space
125 \kern 1em\space
126 \raise 8.15ex \hbox {\bf J}\space
127 \raise 10.15ex \hbox {o}\space
128 \raise 12.04ex \hbox {u}\space
129 \raise 13.60ex \hbox {r}\space
130 \raise 14.64ex \hbox {n}\space
131 \kern .3 em\space
132 \vrule depth 0.8pt height 14.5ex \space
133 \kern -.3em\space
134 \raise 15ex \hbox {a}\space
135 \raise 14.64ex \hbox {l}\space
136 \kern 1em\space
137 \raise 12.04ex \hbox {o}\space
138 \raise 10.15ex \hbox {f}\space
139 \kern 1em\space
140 \raise 6.23ex \hbox {\bf P}\space
141 \raise 4.53ex \hbox {r}\space
142 \raise 3.14ex \hbox {o}\space
143 \raise 2.08ex \hbox {b}\space
144 \raise 1.31ex \hbox {a}\space
145 \raise .78ex \hbox {b}\space
146 \raise .45ex \hbox {i}\space
147 \raise .24ex \hbox {l}\space
148 \raise .13ex \hbox {i}\space
149 \raise .06ex \hbox {t}\space
150 \raise .03ex \hbox {y}}%
151 }%
152 }%
153 }%EJPLOGO
154 \newcommand{\@ECPLOGO}{% designed when Ren'e Carmona was in charge of ECP
155 \raisebox{0.3cm}{\parbox[t]{1.3in}{\noindent\rule{1.3in}{1.6pt}}\
156 \textbf{ ELECTRONIC}\
157 \textbf{ COMMUNICATIONS}\
158 \textbf{ in PROBABILITY}\
159 \rule[.08in]{1.3in}{1.6pt}}}%
160 }%ECPLOGO
161 %% Macro handling the first page

```

```

162 \newcommand{\FIRSTPAGE}{%
163   \setcounter{page}{\@PAGESTART}%
164   \title{\small
165     \ifx\@EJP\undefined\else
166       \@EJPLOGO
167       \bigskip
168       \centerline{\@JOURNALA\ \textbf{\@VOLUME} (\@YEAR),\
169         no. \@PAPERNUM, \,\@PAGESTART--\@PAGEEND.}%
170       \centerline{ISSN:\ \texttt{\href{http://\@URL/}{\@ISSN}} \%
171         \ifx\@DOI\undefined\else
172           \ DOI: \texttt{\href{http://dx.doi.org/\@DOI}{\@DOI}}}%
173         \fi}%
174       \bigskip
175       \bigskip
176       {\Large\bfseries\@TITLE}%
177     \fi
178     \ifx\@ECP\undefined
179     \else
180       \parbox[t]{9cm}{%
181         \@JOURNALA\ \textbf{\@VOLUME} (\@YEAR),
182         no. \@PAPERNUM, \@PAGESTART--\@PAGEEND.\@
183         \ifx\@DOI\undefined
184         \else
185           \ DOI: \texttt{\href{http://dx.doi.org/\@DOI}{\@DOI}}}%
186         \fi \\\
187         ISSN: \ \texttt{\href{http://\@URL/}{\@ISSN}}}%
188         }%
189       \hfill
190       \@ECPLOGO\@
191       \bigskip
192       \bigskip
193       {\Large\@TITLE}%
194     \fi
195   }% end title
196 \date{%
197   \ifx\@DEDICATORY\undefined
198   \else
199     \noindent
200     \emph{\small\sffamily\@DEDICATORY}%
201     \fi}%
202 \maketitle\thispagestyle{empty}%
203 \begin{abstract}%
204   \noindent
205   \@ABSTRACT\par\vskip 1em\relax
206   {\footnotesize
207     \noindent\textbf{Keywords: }\@KEYWORDS.\par
208     \noindent\textbf{AMS MSC 2010: }%
209     \ifx\@AMSSUBJSECONDARY\undefined
210       \noindent
211       \@AMSSUBJ.\par
212     \else
213       \noindent
214       Primary \@AMSSUBJ, Secondary \@AMSSUBJSECONDARY.\par
215     \fi
216     \noindent
217     Submitted to \@JOURNAL\ on \@SUBMITTED,
218     final version accepted on \@ACCEPTED.\par
219     \ifx\@ARXIVID\undefined
220     \else
221       \noindent
222       Supersedes
223       \texttt{\href{http://arXiv.org/abs/\@ARXIVID}{arXiv:\@ARXIVID}}.%
224     \fi\par

```

```

225     \ifx\@HALID\undefined
226     \else
227         \noindent
228         Supersedes
229         \texttt{\href{http://hal.archives-ouvertes.fr/\@HALID}{HAL:\@HALID}}.%
230     \fi\par
231     }%footnotesize
232 \end{abstract}
233
234 \smallskip
235
236 }%END-FIRSTPAGE
237 %% Macro setting the PDF title
238 \newcommand{\PDFFIELDS}{%
239     \hypersetup{%
240         pdftitle={\@JOURNAL\ \@VOLUME\ (\@YEAR), no. \@PAPERNUM, DOI: \@DOI}}%
241         \hypersetup{pdfkeywords={\@KEYWORDS}}%
242         \hypersetup{pdfproducer={\@JOURNAL\ Managing Editor http://\@URL/}}%
243         \hypersetup{pdfcreator={LaTeX with ejpecp.cls v1.4}}%
244         \hypersetup{pdfsubject={Probability Theory}}%
245         \hypersetup{pdfauthor={Please see http://dx.doi.org/\@DOI}}%
246     }%END-PDFFIELDS
247
248 %% Bibliography
249 \def\@MRExtract#1 #2!{#1}      % thanks, Martin!
250 \newcommand{\MR}[1]{% we need to strip the "(...)"
251     \xdef\@MRSTRIP{\@MRExtract#1 !}%
252     \href{http://www.ams.org/mathscinet-getitem?mr=\@MRSTRIP}{MR-\@MRSTRIP}}
253 \newcommand{\ARXIV}[1]{\href{http://arXiv.org/abs/#1}{arXiv:#1}}
254 \renewenvironment{thebibliography}[1]
255     {%
256     \section*{\refname
257         \@mkboth{\MakeUppercase\refname}{\MakeUppercase\refname}}%
258     \phantomsection
259     \addcontentsline{toc}{section}{\refname}%
260     \list{\@biblabel{\@arabic\c@enumiv}}%
261     {\settowidth\labelwidth{\@biblabel{#1}}%
262     \small
263     \setlength{\labelsep}{0.4em}%
264     \setlength{\leftmargin}{\labelwidth}%
265     \addtolength{\leftmargin}{\labelsep}%
266     \setlength{\itemsep}{-.25em}%
267     \@openbib@code
268     \usecounter{enumiv}%
269     \let\p@enumiv\@empty
270     \renewcommand\theenumiv{\@arabic\c@enumiv}}%
271     \sloppy\clubpenalty4000\@clubpenalty\clubpenalty\widowpenalty4000%
272     \sfcode'\.\@m
273 }{%
274     \def\@noitemerr{%
275         \@latex@warning{Empty 'thebibliography' environment}}%
276     \endlist
277 }
278 %% Theorem styles
279 \ifx\@NOAMS\undefined
280     \newtheoremstyle{ejpecpbodyit}% name % cf. thmtest.tex of AMSLaTeX
281     {3pt}                % Space above
282     {3pt}                % Space below
283     {\itshape}          % Body font
284     {}                  % Indent amount (empty = no indent,
285                         %             \parindent = para indent)
286     {\bfseries\sffamily} % Thm head font
287     {.}                 % Punctuation after thm head

```

```

288     { }           % Space after thm head: " " = normal interword space;
289                 %                               \newline = linebreak
290     {}           % Thm head spec (can be left empty, meaning 'normal')
291     \newtheoremstyle{ejpecpbodyrm}% name % cf. thmtest.tex of AMSLaTeX
292     {3pt}        % Space above
293     {3pt}        % Space below
294     {}          % Body font
295     {}          % Indent amount (empty = no indent,
296                 %                               \parindent = para indent)
297     {\bfseries\sffamily} % Thm head font
298     {.}         % Punctuation after thm head
299     { }         % Space after thm head: " " = normal interword space;
300                 %                               \newline = linebreak
301     {}         % Thm head spec (can be left empty, meaning 'normal')
302 \fi
303 %%
304 \ifx\@NOAMS\undefined
305   \theoremstyle{ejpecpbodyit}
306 \fi
307 \newtheorem{theorem}{Theorem}[section]
308 \newtheorem{assumptions}[theorem]{Assumptions}
309 \newtheorem{assumption}[theorem]{Assumption}
310 \newtheorem{claim}[theorem]{Claim}
311 \newtheorem{condition}[theorem]{Condition}
312 \newtheorem{conjecture}[theorem]{Conjecture}
313 \newtheorem{corollary}[theorem]{Corollary}
314 \newtheorem{definitions}[theorem]{Definitions}
315 \newtheorem{definition}[theorem]{Definition}
316 \newtheorem{facts}[theorem]{Facts}
317 \newtheorem{fact}[theorem]{Fact}
318 \newtheorem{heuristics}[theorem]{Heuristics}
319 \newtheorem{hypothesis}[theorem]{Hypothesis}
320 \newtheorem{hypotheses}[theorem]{Hypotheses}
321 \newtheorem{lemma}[theorem]{Lemma}
322 \newtheorem{notations}[theorem]{Notations}
323 \newtheorem{notation}[theorem]{Notation}
324 \newtheorem{proposition}[theorem]{Proposition}
325 \ifx\@NOAMS\undefined
326   \theoremstyle{ejpecpbodyrm}
327 \fi
328 \newtheorem{example}[theorem]{Example}
329 \newtheorem{exercise}[theorem]{Exercise}
330 \newtheorem{problem}[theorem]{Problem}
331 \newtheorem{question}[theorem]{Question}
332 \newtheorem{remark}[theorem]{Remark}
333 %% Numbering
334 \ifx\@NOAMS\undefined
335   \numberwithin{equation}{section}
336 \fi
337 %% Itemize and enumerate for bera
338 \newcommand{\@reduceitemsep}{\addtolength{\itemsep}{-0.5\baselineskip}}
339 \let\OLD@itemize\itemize
340 \renewcommand\itemize{\OLD@itemize\@reduceitemsep}
341 \let\OLD@enumerate\enumerate
342 \renewcommand\enumerate{\OLD@enumerate\@reduceitemsep}
343 %% Replace \mathbb by \mathds except if we require the contrary
344 \ifx\@NODS\undefined
345   \let\realmathbb=\mathbb
346   \let\mathbb=\mathds
347 \fi
348 %% Headings
349 \newcommand{\@HLOB}{%
350   \href{http://dx.doi.org/\@DOI}%

```

```

351     {\@JOURNAL\ \textbf{\@VOLUME}\, (\@YEAR),\ paper \@PAPERNUM.}}
352 \renewcommand{\@evenfoot}{%
353   \normalfont\footnotesize\@HBLOB\hfil
354   \small\raisebox{-1em}{Page \thepage/\@PAGEEND}\hfil
355   \footnotesize\href{http://\@URL/}{http://\@URL/}}
356 \renewcommand{\@oddfoot}{\@evenfoot}
357 \renewcommand{\@evenhead}{\hfil\@SHORTTITLE\hfil}
358 \renewcommand{\@oddhead}{\@evenhead}
359 %% smaller sections titles
360 \renewcommand{\section}{%
361   \@startsection
362     {section}
363     {1}
364     {0em}
365     {\baselineskip}
366     {0.5\baselineskip}
367     {\normalfont\large\bfseries}}
368 \renewcommand{\subsection}{%
369   \@startsection
370     {subsection}
371     {2}
372     {0em}
373     {\baselineskip}
374     {0.25\baselineskip}
375     {\normalfont\bfseries}}
376 \IfFileExists{ejpecp-hook.sty}{\RequirePackage{ejpecp-hook}}{}
377 %% Macros
378 \AtBeginDocument{\FIRSTPAGE\PDFFIELDS}
379 \AtEndDocument{\vfill}

```