

The `apxproof` package

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Abstract

This package facilitates the writing of scientific article with proofs deferred to the appendix.

1 Usage

TODO

2 Implementation

```
1 \RequirePackage{fancyvrb}
2 \RequirePackage{ifthen}
3 \RequirePackage{environ}
4 \RequirePackage{bibunits}
5 \@ifpackageloaded{amsthm}{%
6   \let\proof\undefined
7   \let\endproof\undefined
8 }
9 \RequirePackage{amsthm}
10 \RequirePackage{etoolbox}
11 \RequirePackage{kvoptions}
12
13 \makeatletter
14
15 \SetupKeyvalOptions{
16   family=AXP,
17   prefix=AXP@
18 }
19
20 \DeclareStringOption[append]{appendix}
21
22 \ProcessLocalKeyvalOptions*
23
24 \ifthenelse{\equal{\AXP@appendix}{append}}{
```

```

25 \message{apxproof: Appendix material appended to the document}
26 }{\ifthenelse{\equal{\AXP@appendix}{strip}}{
27 \message{apxproof: Appendix material stripped}
28 }{\ifthenelse{\equal{\AXP@appendix}{inline}}{
29 \message{apxproof: Appendix material inlined within the document}
30 }{
31 \errmessage{Error: unsupported option appendix=\AXP@appendix for
32 package apxproof}
33 }}}
34
35 \newcommand\newtheoremrep[1]{%
36 \@oparg{\axp@newtheoremrep{#1}}[]%
37 }
38
39 \ifthenelse{\equal{\AXP@appendix}{inline}}{
40 \def\axp@newtheoremrep#1[#2]#3{%
41 \expandafter\let\csname #1\endcsname\undefined
42 \expandafter\let\csname c@#1\endcsname\undefined
43 \newtheorem{#1}[#2]{#3}%
44 \NewEnviron{#1rep}[1][]{%
45 \begin{#1}[##1]\BODY\end{#1}%
46 }
47 }
48 \newenvironment{toappendix}{}{}
49 \let\inlineproof\proof
50 \let\endinlineproof\endproof
51 \let\nestedproof\proof
52 \let\endnestedproof\endproof
53 \let\appendixproof\proof
54 \let\endappendixproof\endproof
55 \let\noproofinappendix\relax
56 \let\nosectionappendix\relax
57 }{
58 \newwrite\axp@proofsfile
59 \immediate\openout\axp@proofsfile=\jobname.apx
60 \immediate\write\axp@proofsfile{%
61 \noexpand\makeatletter
62 \noexpand\let\noexpand\proof\noexpand\axpold@proof
63 \noexpand\let\noexpand\endproof\noexpand\endaxpold@proof
64 \noexpand\let\noexpand\section\noexpand\axpold@section
65 }
66 \def\FVB@VerbatimOut{%
67 \bsphack
68 \begingroup
69 \FV@UseKeyValues
70 \FV@DefineWhiteSpace
71 \def\FV@Space{\space}%
72 \FV@DefineTabOut
73 \def\FV@ProcessLine{\immediate\write\axp@proofsfile}%
74 \let\FV@FontScanPrep\relax

```

```

75     \let\@noligs\relax
76     \FV@Scan}
77 \def\FVE@VerbatimOut{\endgroup\@esphack}
78
79 \let\axpold@proof\proof
80 \let\endaxpold@proof\endproof
81
82 \newtoggle{axp@seenreptheorem}
83
84 \def\noproofinappendix{%
85     \global\togglefalse{axp@seenreptheorem}%
86 }
87
88 \newenvironment{appendixproof}
89     {%
90     \axp@writesection
91     \immediate\write\axp@proofsfile{%
92         \noexpand\begin{axpold@proof}%
93     }%
94     \VerbatimOut
95 }
96 {%
97     \endVerbatimOut
98     \immediate\write\axp@proofsfile{%
99         \noexpand\end{axpold@proof}%
100     }%
101     \noproofinappendix
102 }
103
104 \renewenvironment{proof}
105     {%
106     \iftoggle{axp@seenreptheorem}{%
107         \appendixproof
108     }{%
109         \axpold@proof
110     }%
111 }
112 {%
113     \iftoggle{axp@seenreptheorem}{%
114         \endappendixproof
115     }{%
116         \endaxpold@proof
117     }%
118 }
119
120 \let\inlineproof\axpold@proof
121 \let\endinlineproof\endaxpold@proof
122
123 \let\nestedproof\axpold@proof
124 \let\endnestedproof\endaxpold@proof

```

```

125
126 \def\@getcl@ss#1.cls#2\relax{\def\@currentclass{#1}}
127 \def\@getclass{\expandafter\@getcl@ss\@filelist\relax}
128 \@getclass
129
130 \newcommand{\appendixrefname}{References for the Appendix}
131 \newcommand{\appendixbibliographystyle}{alpha}
132 \newcommand{\appendixbibliographyprelim}{%
133   \ifthenelse{\equal{\@currentclass}{lipics}}{%
134     \global\let\oldbiblabel\@biblabel
135     \def\@biblabel{\hspace*{-2em}\small\oldbiblabel}%
136   }{}
137 }
138
139 \ifthenelse{\equal{\AXP@appendix}{append}}{
140   \AtEndDocument{%
141     \clearpage\onecolumn\appendix
142     \appendixbibliographyprelim
143     \begin{bibunit}[\appendixbibliographystyle]%
144     \immediate\closeout\axp@proofsfile\input{\jobname.axp}%
145     \renewcommand{\refname}{\appendixrefname}%
146     \putbib
147     \end{bibunit}%
148   }
149 }{}
150
151 \let\axpold@bibliography\@bibliography
152 \renewcommand\@bibliography[1]{%
153   \defaultbibliography{#1}%
154   \axpold@bibliography{#1}%
155 }
156
157 \newcounter{axp@rcounter}
158 \newcounter{axp@seccounter}
159
160 \def\axp@newtheoremrep#1[#2]#3{%
161   \newtheorem*{axp@#1rp}{#3}%
162   \expandafter\let\csname #1\endcsname\undefined
163   \expandafter\let\csname c@#1\endcsname\undefined
164   \newtheorem{#1}[#2]{#3}%
165   \NewEnviron{#1rep}[1][]{%
166     \addtocounter{axp@rcounter}{1}%
167     \begin{#1}[#1]\label{axp@r\roman{axp@rcounter}}\BODY\end{#1}%
168     \global\toggletrue{axp@seenrepththeorem}%
169     \global\expandafter\let\csname rplet\roman{axp@rcounter}\endcsname\BODY%
170     \axp@writesection%
171     \immediate\write\axp@proofsfile{%
172       \noexpand\begin{axp@#1rp}[\noexpand\ref{axp@r\roman{axp@rcounter}}]\@ifnotempty{##1}
173       \noexpand\let\noexpand\label\noexpand\@gobble%
174       \expandafter\noexpand\csname rplet\roman{axp@rcounter}\endcsname\noexpand\end{axp@#1rp}

```

```

175     }
176   }
177 }
178
179 \def\axp@sectitle{}
180
181 \let\axpold@section\section
182 \def\section{\@ifstar\@section\@@section}
183 \def\@section#1{%
184   \global\edef\axp@sectitle{#1}%
185   \axpold@section*{#1}%
186   \addtocounter{axp@seccounter}{1}%
187   \label{axp@s\roman{axp@seccounter}}%
188 }
189 \def\@@section#1{%
190   \global\edef\axp@sectitle{#1}%
191   \axpold@section{#1}%
192   \addtocounter{axp@seccounter}{1}%
193   \label{axp@s\roman{axp@seccounter}}%
194 }
195 \ifdefined\@acmttitlebox
196   \def\section{\@ifstar\@section{\@dblarg{\@@section}}}
197   \def\@@section#1#2{%
198     \global\edef\axp@sectitle{#2}%
199     \axpold@section{#2}%
200     \addtocounter{axp@seccounter}{1}%
201     \label{axp@s\roman{axp@seccounter}}%
202   }
203 \fi
204
205 \newcommand{\nosectionappendix}{
206   \global\def\axp@sectitle{}%
207 }
208
209 \newcommand\axp@writesection{%
210   \ifx\axp@sectitle\empty
211   \else
212     \immediate\write\axp@proofsfile{\noexpand\def\noexpand\tmp{\noexpand\ref{axp@s\roman{a
213       (\axp@sectitle)}}}%
214     \nosectionappendix
215   \fi
216 }
217
218 \newenvironment{toappendix}
219   {\axp@writesection\VerbatimOut}
220   {\endVerbatimOut}
221
222 \ifdefined\@acmttitlebox
223   \newtheoremstyle{mystyle}%
224     {3pt}

```

```

225     {3pt}
226     {\itshape}
227     {}
228     {\scshape}
229     {.}
230     {.5em}
231     {}
232     \theoremstyle{mystyle}
233
234     \newcommand{\refname}{REFERENCES}
235     \patchcmd{\thebibliography}{References}{\protect\refname}{}{}
236     \patchcmd{\thebibliography}{References}{\protect\refname}{}{}
237
238     \renewcommand{\appendixrefname}{REFERENCES FOR THE APPENDIX}
239     \fi
240 }
241
242 \newenvironment{proofsketch}
243   {\vskip3pt\noindent\emph{Proof sketch.} }
244   {\hfill\qed\vskip3pt}
245
246 \def\thmhead#1#2#3{%
247   \thmname{#1}\thmnumber{\@ifnotempty{#1}{ } \@upn{#2}}%
248   \thmnote{ #3}}
249
250 \makeatother

```

Change History

v1.0.0
General: Initial version 1