The **HEP-FONT** package*
Latin modern extended by computer modern

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Abstract

The **HEP-FONT** package loads standard font packages and extends the usual latin modern implementations by replacing missing fonts with computer modern counterparts.

The package is loaded using \usepackage{hep-font}.

**oldstyle** The **oldstyle** option switches to oldstyle numerals such as 123 in text mode instead of lining numerals such as 123.

The **fontenc** package [1] with T1 and TU font encoding is loaded for pdf\TeX{} and \textsc{Lua}\TeX{}, respectively.

Some restrictions of computer modern (CM) fonts are lifted with the **fixcm** package [2].

The **microtype** [3] optimizations are activated.

The \textsc{La}\TeX{} new font selection scheme (NFSS) is extended with the **nfss**-**ext-cfr** package [4].

The latin modern (LM) font is loaded using the **cfr-lm** [5] and **lmodern** [6] packages for pdf\TeX{} and \textsc{Lua}\TeX{}, respectively.

The text companion fonts are loaded [7].

**\textsc{textsc** Bold **SMALL CAPS** and a sans serif **SMALL CAPS** based on the CM font [8] is provided, the latter using the **sansmathfonts** [9] and **hfoldsty** [10] packages.

**\textui** A sans-serif upright italic font is provided using the **sansmathfonts** package [9].

Finally the **inputenc** package [11] with the **utf8** option is loaded.

A Implementation

\<*package>

Define a hepfont namespace for the options using the **kvoptions** package [12].

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*This document corresponds to **HEP-FONT** v1.0.
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lining Define the \texttt{lining} option deactivating the use of text figures in text mode.

\begin{verbatim}
\DeclareBoolOption[true]{lining}
\DeclareComplementaryOption{oldstyle}{lining}
\ProcessKeyvalOptions*
\ifxetexorluatex
\RequirePackage{ifluatex}\[one.prop/three.prop\]
\RequirePackage{ifxetex}\[one.prop/four.prop\]
\newif\ifxetexorluatex
\ifxetex\xetexorluatextrue\else\ifluatex\xetexorluatextrue\else\xetexorluatexfalse\fi\fi
\ifxetexorluatex
\LoadThe\texttt{ifluatex}\[one.prop\] and \texttt{ifxetex}\[one.prop\] packages. Define the \texttt{ifxetexorluatex} conditional checking if the package is executed by \LaTeX\ or \XeLaTeX.
\fi
\def\hep@encoding{T\ifxetexorluatex U\else 1\fi}
\RequirePackage[\hep@encoding]{fontenc}
\FixThe CM \[eight.prop\] fonts using the \texttt{fix-cm} \[two.prop\] and load the \texttt{microtype} font optimizations \[three.prop\].
\else
\require{cfr-lm}\[five.prop\] or \texttt{lmodern}\[six.prop\] packages depending on the \LaTeX engine. In both cases the NFSS is extended using the \texttt{nfssext-cfr}\[four.prop\] package.
\fi
\end{verbatim}
Adjust the figures according to the `lining` option and ensure that tables always use lining.

30 \% \RequirePackage{etoolbox}
31 % \AtBeginEnvironment{tabular}\{tlstyle}

Load the `textcomp` extension [7] and define helper functions.

32 \RequirePackage{textcomp}
33 \newcommand{\hep@sf@fontshape}[3]{
34 \DeclareFontShape{\hep@encoding}{\sfdefault}{#1}{#2}{#3}{},
35 \newcommand{\hep@rm@fontshape}[3]{
36 \DeclareFontShape{\hep@encoding}{\rmdefault}{#1}{#2}{#3}{},
37 \ifhepfont@lining
38 \RequirePackage{slantsc}
39 \hep@rm@fontshape{b}{sc}{<->ssub*cmr/bx/sc}{},
40 \hep@rm@fontshape{bx}{sc}{<->ssub*cmr/bx/sc}{},
41 \hep@rm@fontshape{b}{scsl}{<->ssub*cmr/bx/scsl}{},
42 \hep@rm@fontshape{bx}{scsl}{<->ssub*cmr/bx/scsl}{},
43 \hep@rm@fontshape{b}{scsl}{<->ssub*cmr/bx/scsl1}{},
44 \hep@rm@fontshape{bx}{scsl}{<->ssub*cmr/bx/scsl1}{},
45 \hep@rm@fontshape{b}{scsl}{<->ssub*cmr/bx/scsl1}{},
46 \}
47 \}
48 \hep@sf@fontshape{bx}{sc}{<->cmssbxsc10}{},
49 \hep@sf@fontshape{b}{sc}{<->cmssbxsc10}{},
50 \hep@sf@fontshape{m}{scit}{<->cmsscsci10}{},
51 \hep@sf@fontshape{b}{scit}{<->cmsscsci10}{},
52 \hep@sf@fontshape{m}{scit}{<->cmsscsci10}{},
53 \}

For serif fonts

54 \else

For lining numerals add CM roman small caps (italic and bold) from the `slantsc` package [17].

56 \ifhepfont@lining
57 \RequirePackage{slantsc}
58 \hep@rm@fontshape{b}{sc}{<->ssub*cmr/bx/sc}{},
59 \hep@rm@fontshape{bx}{sc}{<->ssub*cmr/bx/sc}{},
60 \hep@rm@fontshape{b}{scsl}{<->ssub*cmr/bx/scsl1}{}
For oldstyle numerals use the fonts from the \textsc{hfoldsty} package [10].

\textsc{If} oldstyle numerals use the fonts from the \textsc{hfoldsty} package [10].

\textsc{Provide the sans serif small caps font shape using the extended CM from the \textsc{sans-mathfonts} package [9].}

\textsc{Provide a sans upright italic font.}

\textsc{Load the \textsc{inputenc} package [11] when using \textsc{pdflatex}.}

\textsc{Patch the \textsc{unit} and \textsc{unitfrac} macros to work with lining numerals using the \textsc{xpacht} package [18] if the \textsc{units} package [19] is loaded. TODO implement patch without actually loading the package.}

4
\documentclass[a4paper]{article}
\usepackage[oldstyle]{hep-font}
\usepackage{fullpage}
\usepackage{fancyvrb}\DefineShortVerb{|}
\begin{document}
\subsection*{Roman}
\begin{vrb}
| \rmfamily | \bfseries \slshape | \itshape | \uishape | \scshape |
\begin{tabular}{@{}p{5cm}ll@{}}
| Latin Modern Roman 123 |  \slshape Latin Modern Roman Semi Bold 123 | \bfseries Latin Modern Roman Bold Extended 123 | \bfseries\scshape Computer Modern Roman Bold Small Caps 123 |
\end{tabular}
\end{vrb}
\end{document}
\begin{vrb}
| \tistyle | & \{Latin Modern Dunhill 123} \ \ \ \\
| \slshape | & \{\slshape Latin Modern Dunhill Oblique 123} \ \ \ \\
\end{vrb}

\begin{vrb}
| \fontfamily{cmfr}\selectfont | & \{Computer Modern Funny 123} \ \ \ \\
| \itshape | & \{\itshape Computer Modern Funny Oblique 123} \ \ \ \\
\end{vrb}

\begin{vrb}
| \fontfamily{cmfib}\selectfont | & \{Computer Modern Fibonacci 123} \ \ \ \\
| \slshape | & \{\slshape Computer Modern Fibonacci Oblique 123} \ \ \ \\
\end{vrb}

\begin{vrb}
| \sffamily | & \{Latin Modern Sans 123} \ \ \ \\
| \fontseries{sbc}\selectfont & \{\fontseries{sbc}\selectfont Latin Modern Sans Demi Condensed} \ \ \ \\
| \bfseries | & \{\bfseries Latin Modern Sans Bold} \ \ \ \\
| \slshape | & \{\slshape Latin Modern Sans Oblique 123} \ \ \ \\
| \itshape | & \{\itshape Computer Modern Sans Upright Italic 123} \ \ \ \\
| \bfseries & \{\bfseries\scshape Computer Modern Sans Bold Small Caps} \ 123} \ \ \ \\
| \bfseries & \{\bfseries\scshape Computer Modern Sans Italic Small Caps} \ 123} \ \ \ \\
| \bfseries & \{\bfseries\scshape Computer Modern Sans Italic Bold Small Caps} \ 123} \ \ \ \\
\end{vrb}

\begin{vrb}
| \qtstyle | & \{Latin Modern Sans Extended 123} \ \ \ \\
| \bfseries | & \{\bfseries Latin Modern Sans Bold Extended 123} \ \ \ \\
| \slshape | & \{\slshape Latin Modern Sans Extended Oblique 123} \ \ \ \\
\end{vrb}
C Readme

# The 'hep-font' package

Latin modern extended by computer modern.

## Introduction

The 'hep-font' package loads standard font packages and extends the usual Latin Modern implementations by replacing missing fonts with Computer Modern counterparts.

The package is loaded with `\usepackage{hep-font}`.
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References

[15] B\TeX\Xe\ Project Team. ‘\LaTeX\ font encodings: Documentation of \LaTeX\ font encodings’ (1995). CTAN: encguide.
