



## The Treasure Chest

These are the new packages posted to CTAN ([ctan.org](https://ctan.org)) from October 2021–April 2022. Descriptions are based on the announcements and edited for extreme brevity.

Entries are listed alphabetically within CTAN directories. More information about any package can be found at [ctan.org/pkg/pkgname](https://ctan.org/pkg/pkgname).

A few entries which the editors subjectively believe to be especially notable are starred (\*); of course, this is not intended to slight the other contributions.

We hope this column helps people access the vast amount of material available through CTAN and the distributions. See also [ctan.org/topic](https://ctan.org/topic). Comments are welcome, as always.

◇ Karl Berry  
<https://tug.org/TUGboat/Chest>

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### biblio

- \*`citation-style-language` in `biblio/bibtex/contrib`  
 Bibliography formatting with the XML-based Citation Style Language.
- `ieejtran` in `biblio/bibtex/contrib`  
 Unofficial BIB<sub>T</sub>E<sub>X</sub> style for publications of the Institute of Electrical Engineers of Japan.
- `jieeetran` in `biblio/bibtex/contrib`  
 Citing Japanese articles in IEEE format.
- `pbibtex-manual` in `biblio/pbibtex`  
 Documentation for Japanese (u)pBIB<sub>T</sub>E<sub>X</sub>.

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### fonts

- `andika` in `fonts`  
 Fonts for beginning readers from SIL.
- `concmath-otf` in `fonts`  
 OpenType math font for the Concrete design.
- `hannosys` in `fonts`  
 Font for sign languages.
- `talos` in `fonts/greek`  
 Greek cult font from the 1980s.
- `vtex-nonfree` in `fonts`  
 URW Classico and URW Garamond extended for Vietnamese.
- `xcharter-math` in `fonts`  
 OpenType math companion for the XCharter text fonts.

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### fonts/utilities

- `hep-font` in `fonts/utilities`  
 Latin Modern with extensions from Computer Modern and similar designs.
- `hep-math-font` in `fonts/utilities`  
 Extended Greek and sans-serif math.

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### graphics

- `bodeplot` in `graphics/pgf/contrib`  
 Making Bode, Nyquist, Nichols plots with `gnuplot` or `pgfplots`.
- `byrne` in `graphics/metapost/contrib/macros`  
 Typeset geometric proofs in the style of Oliver Byrne's 1847 edition of Euclid's *Elements*, in MetaPost.
- `hexboard` in `graphics/pgf/contrib`  
 Draw hex boards and games.
- `kinematikz` in `graphics/pgf/contrib`  
 Design kinematic chains and mechanisms.
- `liftarm` in `graphics/pgf/contrib`  
 Parameterized lift arms.
- `messagepassing` in `graphics/pgf/contrib`  
 Communication protocol diagrams.
- `pgf-interference` in `graphics/pgf/contrib`  
 Interference patterns.
- `pst-hsb` in `graphics/pstricks/contrib`  
 Curves with continuous colors, in PSTricks.
- `robotarm` in `graphics/pgf/contrib`  
 Parameterized 2D robot arms.

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### indexing

- `hsindex` in `indexing`  
 Alternative to `xindy` and `makeindex`, in Haskell.

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### info

- `kaytannollista-latexia` in `info`  
 Practical manual for L<sup>A</sup>T<sub>E</sub>X, in Finnish.
- `knuth-hint` in `info`  
 (C)WEB sources from T<sub>E</sub>X Live in HINT format. See [ctan.org/pkg/hitex](https://ctan.org/pkg/hitex) about the engine.
- `latex-for-undergraduates` in `info`  
 Tutorial aimed at undergraduates, with an introduction to L<sup>A</sup>T<sub>E</sub>X Workshop in Visual Studio Code.
- `mathalphabets` in `info`  
 Introduction to mathematical alphabets.

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### macros/latex/contrib

- `altsubsup` in `macros/latex/contrib`  
 Writing sub/superscripts with square brackets and custom formatting.

[macros/latex/contrib/altsubsup](https://ctan.org/macros/latex/contrib/altsubsup)

- `annotate-equations` in `macros/latex/contrib`  
Annotate math equations using `TikZ`.
- `atendofenv` in `macros/latex/contrib`  
Add custom symbol at end of an environment.
- `bfh-ci` in `macros/latex/contrib`  
Bern University of Applied Sciences design.
- `bmstu` in `macros/latex/contrib`  
Bauman Moscow State Technical Univ. support.
- `ccred` in `macros/latex/contrib`  
Inserting definite articles for `\cref` references.
- `clistmap` in `macros/latex/contrib`  
Map and iterate over  $\LaTeX$ 3 clists.
- `codebox` in `macros/latex/contrib`  
Highlighted source code in a fancy box.
- `commonunicode` in `macros/latex/contrib`  
List of Unicode symbols with typeset output.
- `coop-writing` in `macros/latex/contrib`  
Support for cooperative writing.
- `create-theorem` in `macros/latex/contrib`  
Multilingual theorem-like environments.
- `dbshow` in `macros/latex/contrib`  
Store and display data with custom filters, orders, and styles.
- `formal-grammar` in `macros/latex/contrib`  
Typeset formal grammars (BNF).
- `functional` in `macros/latex/contrib`  
 $\LaTeX$ 2<sub>ε</sub> interface for  $\LaTeX$ 3 programming.
- `grading-scheme` in `macros/latex/contrib`  
Typeset grading schemes in tabular format.
- `handoutwithnotes` in `macros/latex/contrib`  
Notes next to scaled slides via `pgfpages`.
- `hep-acronym` in `macros/latex/contrib`  
Acronym extension for glossaries.
- `hep-bibliography` in `macros/latex/contrib`  
Extend `BIB $\LaTeX$`  with all the fields from `inspirehep.net` and more.
- `hep-float` in `macros/latex/contrib`  
Convenience package for float placement.
- `hep-math` in `macros/latex/contrib`  
Extended math macros.
- `hep-text` in `macros/latex/contrib`  
Extensions for lists and text.
- `hep-title` in `macros/latex/contrib`  
Title page extensions: preprint, affiliation, etc.
- `hvpymntex` in `macros/latex/contrib`  
Automatically run `pygmentex` from `TeX` for syntax highlighting.
- `jmsdelim` in `macros/latex/contrib`  
Bottom-up compositional delimiter sizing.
- `kanbun` in `macros/latex/contrib`  
Typeset `kanbun-kundoku` with support for `kanbun` annotations.
- `llncs` in `macros/latex/contrib`  
Document class and bibliography style for Lecture Notes in Computer Science (LNCS).
- `njustthesis` in `macros/latex/contrib`  
Thesis template for Nanjing University of Science and Technology.
- `njuvisual` in `macros/latex/contrib`  
Display logos related to Nanjing Univ.
- `numerica-plus` in `macros/latex/contrib`  
Iterate functions, find fixed points, zeros, extremas, and more.
- `numerica-tables` in `macros/latex/contrib`  
Multi-column tables of mathematical functions.
- `pascaltriangle` in `macros/latex/contrib`  
Draw beautiful Pascal (Yang Hui) triangles.
- `proflycee` in `macros/latex/contrib`  
Support for French high school mathematics teachers.
- `rbt-mathnotes` in `macros/latex/contrib`  
Rebecca Turner's personal macros and styles for math notes.
- `seu-ml-assign` in `macros/latex/contrib`  
Template for Southeast University Machine Learning assignments.
- `sillypage` in `macros/latex/contrib`  
John Cleese's silly walk as page numbering style.
- `simplenodes` in `macros/latex/contrib`  
Simple nodes and linking in `TikZ`.
- `snaptodo` in `macros/latex/contrib`  
Put notes on closer side, and not overlapping.
- `termsim` in `macros/latex/contrib`  
Simulate Windows 10, Ubuntu, and Mac terminals with various color themes.
- `unbtex` in `macros/latex/contrib`  
Theses at University of Brasilia.
- `wrapfig2` in `macros/latex/contrib`  
Wrap text around figures, extension of `wrapfig`.
- `yb-book` in `macros/latex/contrib`  
Template for Y.B.-branded books.
- `zref-clever` in `macros/latex/contrib`  
Clever  $\LaTeX$  cross-references based on `zref`.
- `zref-vario` in `macros/latex/contrib`  
Combine `varioref` and `zref-clever`.
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- `m/l/c/beamer-contrib/themes`**
- `beamertheme-arguelles` in `m/l/c/b-c/themes`  
Emphasizing simplicity and readability.
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- `macros/latex/contrib/biblatex-contrib`**
- `biblatex-readbb1` in `m/l/c/biblatex-contrib`  
Process a `.bb1` file created by Biber.

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**macros/latex-dev/base**

\***latex-lab-dev** in `macros/latex-dev/base`  
 L<sup>A</sup>T<sub>E</sub>X features in development. Currently  
 includes the new command `\DocumentMetadata`.

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**macros/luatex/generic**

**luaaddplot** in `macros/luatex/generic`  
 Process data files as they are read by `\addplot`.

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**macros/luatex/latex**

**autopuncitems** in `macros/luatex/latex`  
 Automatically punctuate lists.

**datestamp** in `macros/luatex/latex`  
 Static datestamps via `.aux` files.

**letgut** in `macros/luatex/latex`  
 Class for *La Lettre Gutenberg*.

**linebreaker** in `macros/luatex/latex`  
 Preventing overfull boxes by automatically  
 increasing `\tolerance` and `\emergencystretch`.

**luacensor** in `macros/luatex/latex`  
 Securely redact information using Lua.

**yamlvars** in `macros/luatex/latex`  
 YAML parser (Lua package `tinyyaml`) and  
 support functions to make L<sup>A</sup>T<sub>E</sub>X definitions  
 using YAML.

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**support**

**luafindfont** in **support**  
 Lua script to search for fonts in the Lua<sub>T</sub>E<sub>X</sub>  
 font database.

**texlogfilter** in **support**  
 Reduce engine output or log files to warnings  
 and errors.

**texlogsieve** in **support**  
 Process log files, including merging wrapped  
 lines.

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**systems**

\***hitex** in `systems/doc`  
 New T<sub>E</sub>X engine by Martin Ruckert especially  
 for mobile devices.

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**T<sub>E</sub>X Live 2022 news**

Karl Berry

T<sub>E</sub>X Live 2022 was released online on April 3, 2020.  
 The T<sub>E</sub>X Collection DVD is in process.

As new versions of packages are uploaded to  
 CTAN, they are imported into TL, and available over  
 the Internet via the `tlmgr` program. See the TL web  
 site and documentation for more.

The major update in 2022 is Hi<sub>T</sub>E<sub>X</sub>, the new  
 T<sub>E</sub>X engine by Martin Ruckert. It generates its own  
 HINT output format, intended for use on mobile  
 devices. Martin has written a manual and several  
 articles about the project; see [ctan.org/pkg/hitex](https://ctan.org/pkg/hitex)  
 for links.

As always, in this year's release there are also  
 pervasive updates to hundreds of packages and pro-  
 grams. For a list of major changes, please see [tug.org/texlive/bugs.html](https://tug.org/texlive/bugs.html). For this note, I wanted  
 to summarize some of the known problems in current  
 TL; the same web page has more details.

**Windows binaries** in TL'22 are still 32-bit. We  
 expect to switch to 64-bit binaries for Windows in  
 2023, and we cannot provide both simultaneously—  
 so be forewarned.

**Lua<sub>T</sub>E<sub>X</sub>**, unlike all other engines, does not look in a  
 given `-output-directory` for input files. We expect  
 this to be fixed for next year.

**Some Lua-related formats are unsharable.** The  
 Lua<sub>L</sub>A<sub>T</sub>E<sub>X</sub>, Con<sub>T</sub>E<sub>X</sub>t, and Op<sub>T</sub>E<sub>X</sub> `.fmt` files cannot  
 be shared across different architectures (32-bit/64-bit  
 and/or BigEndian/LittleEndian). This is not new  
 this year, but was only discovered and reported rel-  
 atively recently. No decision has been made about  
 changing this for Lua<sub>L</sub>A<sub>T</sub>E<sub>X</sub>; Con<sub>T</sub>E<sub>X</sub>t and Op<sub>T</sub>E<sub>X</sub>  
 are not expected to ever change this, by decision of  
 their authors.

**On macOS Monterey 12** (the latest release at this  
 writing), `install-tl` comes up as a black window,  
 due to Apple's intentional breakage of the `wish` pro-  
 gram (Tcl/Tk). The solution, other than installing a  
 working Tcl/Tk, is to run `install-tl -gui text`,  
 which is now (post-release) the default.

**On Windows**, `install-tl` may output the cryptic  
 message `fail bad gmtime` (repeatedly). It's annoy-  
 ing but harmless; just ignore it. A fix is in the works.

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<https://tug.org/texlive>