

Hetvid: A Typst template for lightweight notes

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Abstract

This is a template designed for writing scientific notes.

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In this doc, upcoming features are represented by *light font*.

1. Usage

You can import this template in 3 ways.

- Copy the files (including `hetvid.typ` and `dingli.typ`) to your working directory, and import it by

```
1 #import "hetvid.typ": *
```

- Copy this repository to your directory for local packages, then import it by

```
1 #import "@local/hetvid:0.1.0": *
```

- After we have published this to Typst Universe, you can import it by

```
1 #import "@local/hetvid:0.1.0": *
```

We recommend the second way.

Specifically, the directory for local packages is `{data-dir}/typst/packages/local/`, where `{data-dir}` is

- Linux: `$XDG_DATA_HOME` or `~/.local/share`;
- MacOS: `~/Library/Application Support`;
- Windows: `%APPDATA%`, where `%APPDATA%` is a variable, usually being

```
1 C:\Users\USERNAME\AppData\Roaming
```

You can check this in cmd by command

```
1 $ echo The value of ^%AppData^% is %AppData%
2 The value of %AppData% is C:\Users\USERNAME\AppData\Roaming
```

See <https://superuser.com/questions/632891/what-is-appdata>.

The user should copy this directory to this directory for local packages. For example for Windows, there should be such a directory in the end:

```
1 C:\Users\USERNAME\AppData\Roaming ypst\packages\local\hetvid\0.1.0\
```

Then the user can `#import` this template.

After importing, the user can set basic information by the following code. Note that default values have been given to variables affecting the format. If you do not need to change these default values, you do not need to write them when you use this template.

```
1 #show: hetvid.with(
2   // Information for the title
3   // Metadata
4   title: [Title],
5   author: "The author",
6   affiliation: "The affiliation",
7   header: "",
8   date-created: datetime.today().display(),
9   date-modified: datetime.today().display(),
10  abstract: [],
11  toc: true,
12
13  // Language
14  lang: "en",
15
16  // Information for format, only write the term you need to change
17  // Paper size
18  paper-size: "a4",
19
20  // Fonts
21  body-font: ("New Computer Modern", "Libertinus Serif", "TeX Gyre Termes",
    "Songti SC", "Source Han Serif SC", "STSong", "Simsun", "serif"),
```

```

22 raw-font: ("DejaVu Sans Mono", "Cascadia Code", "Menlo", "Consolas", "New
    Computer Modern Mono", "PingFang SC", "STHeiti", "华文细黑", "Microsoft
    YaHei", "微软雅黑"),
23 heading-font: ("Helvetica", "Tahoma", "Arial", "PingFang SC", "STHeiti",
    "Microsoft YaHei", "微软雅黑", "sans-serif"),
24 math-font: ("New Computer Modern Math", "Libertinus Math", "TeX Gyre Termes
    Math"),
25 emph-font: ("New Computer Modern", "Libertinus Serif", "TeX Gyre Termes",
    "Kaiti SC", "KaiTi_GB2312"),
26 body-font-size: 11pt,
27 body-font-weight: "regular", // set it to 450 if you want book-weight of
    NewCM fonts
28 raw-font-size: 9pt,
29 caption-font-size: 10pt,
30 heading-font-weight: "regular",
31
32 // Colors
33 link-color: link-color,
34 muted-color: muted-color,
35 block-bg-color: block-bg-color,
36
37 // indention
38 ind: 1.5em,
39 justify: true,
40
41 // bibliography style, if lang == "zh", default to be "gb-7714-2015-numeric"
42 bib-style: (
43   en: "springer-mathphys",
44   zh: "gb-7714-2015-numeric",
45 ),
46
47 // Numbering level of theorems
48 thm-num-lv: 1,
49 )

```

2. Fonts

Below is not the newest version, but can serve and working examples.

2.1. Basic settings

2.2. On math fonts

2.3. On weight of New Computer Modern font

Fonts can be globally adjusted in the `#let hetvid()` block. In this block, several types of fonts are specified, including

body-font This is the font used for the main text.

raw-font This is the font used for the `raw text`.

heading-font This is the font used for the headings. I choose to use sans serif fonts for the headings for a modern look. You can modify it to serif fonts with higher weight if you like. See Section 3.1 for details.

math-font This is the font used for the math equations.

For each type of font, I provide several options. The compiler will choose the first available font in the list. All these fonts I choose is free to download from the internet.

I would to comment more on the math font. I have set it to match the body font in the first 3 options. I highly recommend this matching since text can appear in equations, while different fonts for text in and out of equations look really weird. For example, compare the following two examples:

- The failure probability is $P[\text{fail}] = 1/2$. (The math font is set to be the same as the body font, i.e., the New Computer Modern font, which is default for \LaTeX .)
- The failure probability is $P[\text{fail}] = 1/2$. (The math font is set to be the same as the body font, i.e., the Libertinus font.)
- The failure probability is $P[\text{fail}] = 1/2$. (The math font is set to be Libertinus Math, not matching the text font.)

Human beings should be uncomfortable with the third example. For available opentype fonts supporting math, please refer to [Which OpenType Math fonts are available?](#)

The default font is set to be New Computer Modern, which is embedded in typst. Typst provides two weights of this font for body text: 400 (regular) and 450 (book). We use the regular weight by default, which has a conventional \LaTeX look. You can set `body-font-weight` to book yourself as below

```
1 #show: hetvid.with(
2   // other parameters
3   body-font-weight: 450,
4   // other parameters
5 )
```

This weight is more friendly to screens with low resolution.

3. Headings

3.1. Adjusting fonts of headings

Headings are set to their default size in typst, but using a sans serif font with normal weight. You can set it to serif font with higher weight if you like, by setting

```
1 #show: hetvid.with(
2   // other parameters
3   heading-font: "New Computer Modern",
4   heading-font-weight: 700,
5   // other parameters
6 )
```

3.2. Second-level heading

3.2.1. Third-level heading

Note that third-level heading has the same font size as the body text. A light note within 100 pages should rarely use a third-level heading. For example, Kitaev's paper [1–3] and Witten's note [4–6] never uses a third-level heading.

3.2.1.1. Please avoid using headings of higher levels

If a still higher-level heading is needed, the note might be malstructured.

4. Quotes

Block quotes.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aequae doleamus animo, cum corpore dolemus, fieri.

Cicero

Then this is still the same paragraph.

Another paragraph. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aequae doleamus animo, cum corpore dolemus, fieri.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aequae doleamus animo, cum corpore dolemus, fieri.

Then this is true.

5. Equation

Equations are numbered by default,

$$\mathcal{F}f(k) = \frac{1}{2\pi i} \int dk e^{ikx} f(x), \quad (1)$$

and you can refer to it by its number Eq. (1), or Eqs. (1, 2).

By default, line after an equation is not indented,

$$1 + 1 = 2. \quad (2)$$

This is an example. But if you want to end a paragraph by an equation, you can add a paragraph break manually by `#parvirtual`.

$$1 + 1 = 2. \quad (3)$$

And then you can add a new paragraph.

6. Theorems

Our template provides several theorem environments through a theorem package `dingli`.

Theorem 6.1. This is a theorem.

This is a paragraph after a theorem. Note the vertical space.

For theorems with a name, we set it to look like the default behaviour of the `amsthm` package. The “theorem” is strong, the “name” is put in a parenthesis while the point is put after the name.

Theorem 6.2 (some theorem). This is a theorem with name.

Theorem 6.3. This is a theorem. The space is set to weak so that no extra space is added between two theorems.

Proof. This is the proof.

$$1 + 1 = 2 \tag{4}$$

This is what to be proved.

Another paragraph of the proof. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magnam aliquam quaerat voluptatem. Ut enim aequale doleamus animo, cum corpore dolemus, fieri tamen permagna accessio potest, si aliquod aeternum et infinitum impendere malum nobis opinemur. Quod idem licet. ■

Now we have other types.

Lemma 6.1. This is a lemma.

Corollary 6.1. This is a lemma.

Definition 6.1. This is a lemma.

Refer to theorems by [Lemma 7.1](#).

7. Theorem by section

Theorem 7.1. Recount the theorem

Lemma 7.1. This is a lemma.

Corollary 7.1. This is a lemma.

Definition 7.1. This is a lemma.

8. Figure and caption

This template allows for two kinds of figures. First, a figure inside a paragraph. Such a figure is described by contents round it in the main text and hence has no caption or label. As a

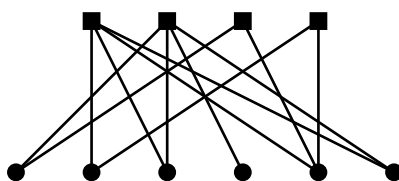
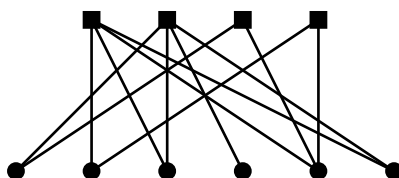


Figure 3. A figure placed at the top of a page.

result, content following this figure should not be indented since it is not a new paragraph. For example, we can plot a bipartite graph as follows:



and go on to say something about it.

Another kind of figure is a standalone figure, which has a caption and label. For such figures, we change the typst default behaviour by following 3 features:

- Figure caption is centered if it is within one line, otherwise it is aligned to the left. See Figure 1 and Figure 2 for examples. Refer to [Typst Examples Book: Multiline detection](#).
- Figure caption has a smaller size than the main text, defined by `caption-size`.
- We add vertical space equal to one line of text before and after such a figure.

The second and the third features are set to avoid mixing the caption with the main text.

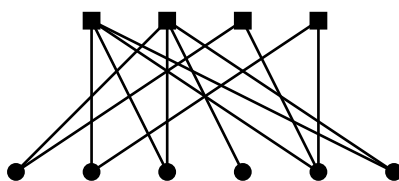


Figure 1. A figure with a centered short caption.

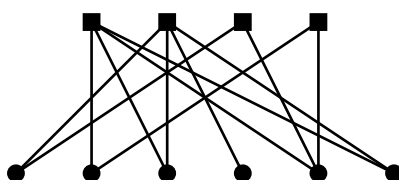


Figure 2. A figure with a long caption. If the caption is long enough such that it occupies multiple lines, then the caption is aligned to the left.

You can see that contents following a standalone figure is indented, indicating that is is a new paragraph. The following paragraph is well separated from the figure caption.

You can also force a figure to be placed at the top of a page. See Figure 3.

9. Bibliography and citation

Bibliography and citation style is set in

```
1 // set citation
2 set bibliography(style: "american-physics-society")
```

You can also choose other styles, see <https://typst.app/docs/reference/model/bibliography/#parameters-style>.

Bibliography

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