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AME 20231
13 January 2022

It is machine-independent. It runs on Linux, Macintosh (see **TeXShop**), and Windows (see **MiKTeX**) machines. There are web-based versions, <https://www.overleaf.com>. You can e-mail ASCII text versions of most relevant files.

It is the tool of choice for many research scientists and engineers. Many journals accept **L^AT_EX** submissions, and many books are written in **L^AT_EX**.

Some basic instructions are given next. Put your text in here. You can be a little sloppy about spacing. It adjusts the text to look good. You can make the text smaller. You can make the text tiny.

Skip a line for a new paragraph. You can use italics (*e.g. Thermodynamics is everywhere*) or **bold**. Greek letters are a snap: Ψ , ψ , Φ , ϕ . Equations within text are easy—A well known Maxwell thermodynamic relation is $\left.\frac{\partial T}{\partial P}\right|_s = \left.\frac{\partial v}{\partial s}\right|_P$. You can also set aside equations like so:

$$du = T ds - P dv, \quad \text{first law.} \quad (1)$$

$$ds \geq \frac{\delta q}{T}. \quad \text{second law.} \quad (2)$$

Eq. (??) is the first law. Eq. (??) is the second law. References¹ are available. If you have a postscript file, say **sample.figure.eps**, in the same local directory, you can insert the file as a figure. Figure ??, below, plots an isotherm for air modeled as an ideal gas.

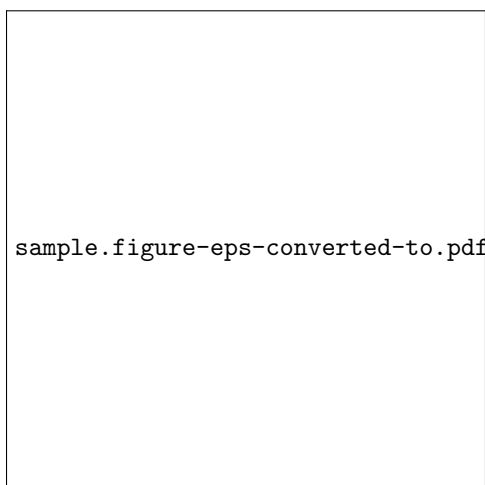


Figure 1: Sample figure plotting $T = 300$ K isotherm for air when modeled as an ideal gas.

Running **L^AT_EX**

You can create a **L^AT_EX** file with any text editor (**vi**, **emacs**, **gedit**, etc.). To get a document, you need to run the **L^AT_EX** application on the text file. The text file must have the suffix “**.tex**” On a Linux cluster machine, this is done via the command

```
latex file.tex
```

This generates three files: **file.dvi**, **file.aux**, and **file.log**. The most important is **file.dvi**.

The finished product can be previewed in the following way. Execute the commands:

```
dvipdf file.dvi
```

Linux System

¹Lamport, L., 1986, *L^AT_EX: User's Guide & Reference Manual*, Addison-Wesley: Reading, Massachusetts.

This command generates `file.pdf`, which can be viewed with many standard tools. Alternatively, you can use **TeXShop** on a Macintosh or **MiKTeX** on a Windows-based machine. *Another very good and modern option is the web-based <https://www.overleaf.com>.* The `.tex` file must have a closing statement as below. end

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