

My document's title

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# Contents

|                                  |          |
|----------------------------------|----------|
| List of Figures . . . . .        | 2        |
| List of Tables . . . . .         | 3        |
| <b>1 Chapter Title</b>           | <b>4</b> |
| 1.1 Section Title . . . . .      | 4        |
| 1.1.1 Subsection A . . . . .     | 4        |
| 1.1.2 Subsection B . . . . .     | 4        |
| 1.2 Equations . . . . .          | 5        |
| 1.3 Text Formatting . . . . .    | 5        |
| 1.3.1 Font Sizes . . . . .       | 6        |
| 1.3.2 Font Color . . . . .       | 6        |
| 1.3.3 Text alignment . . . . .   | 6        |
| 1.3.4 Horizontal lines . . . . . | 8        |
| 1.4 Cross Referencing . . . . .  | 8        |
| 1.5 Lists . . . . .              | 8        |
| 1.6 Images . . . . .             | 9        |
| 1.7 Tables . . . . .             | 9        |
| 1.8 Bibliography . . . . .       | 9        |
| References . . . . .             | 10       |

# List of Figures

|     |                         |   |
|-----|-------------------------|---|
| 1.1 | Optional image caption. | 9 |
|-----|-------------------------|---|

# List of Tables

|     |                         |   |
|-----|-------------------------|---|
| 1.1 | Optional table caption. | 9 |
| 1.2 | Optional table caption. | 9 |

# Chapter 1

## Chapter Title

### 1.1 Section Title

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#### 1.1.1 Subsection A

Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cumbilia Curae; Etiam in vulputate orci. Proin sit amet urna augue. Cras nisl arcu, ullamcorper sollicitudin dui a, imperdiet lobortis libero. Donec feugiat fringilla nulla, vitae egestas enim iaculis at. Nulla nec tincidunt justo. Donec condimentum dolor est, ut molestie urna luctus in.

#### 1.1.2 Subsection B

I am part of Section [1.1](#).

**Paragraph** Lorem....

**Subparagraph** Lorem....

## 1.2 Equations

Default equation:

$$E = \frac{1}{2}nk_B T \quad (1.1)$$

Equation without numbering:

$$E = \frac{1}{2}nk_B T$$

Eqnarray:

$$E_{kin} = E_{pot} \quad (1.2)$$

$$\Leftrightarrow \frac{1}{2}mv^2 = \frac{GMm}{r} \quad (1.3)$$

$$\Leftrightarrow v = \sqrt{2\frac{GM}{r}} := v_{escape} \quad (1.4)$$

Align:

$$E_{kin} = E_{pot} \quad (1.5)$$

$$\Leftrightarrow \frac{1}{2}mv^2 = \frac{GMm}{r} \quad (1.6)$$

$$\Leftrightarrow v = \sqrt{2\frac{GM}{r}} := v_{escape} \quad (1.7)$$

## 1.3 Text Formatting

- This is **bold**.
- This is *italicized*.
- This is underlined.
- This is *emphasized*.

- This is `typewriter` family.
- This is Roman font family.
- This is `sans serif` font.
- $x = 10$ , while  $y = 7$
- $\mathbb{R}$ ,  $\mathbf{R}$

### 1.3.1 Font Sizes

- `tiny`
- `scriptsize`
- `footnotesize`
- `small`
- `normalsize`
- `large`
- `Large`
- `LARGE`
- `huge`
- `Huge`

### 1.3.2 Font Color

This is `my text in red`. This is `my color`.

### 1.3.3 Text alignment

centered text

left aligned text

right aligne text

top text

bottom text left text

right text

This is some extra space.  
This is some extra space.

### 1.3.4 Horizontal lines

---

## 1.4 Cross Referencing

$$E = \frac{1}{2}nk_B T \quad (1.8)$$

As you can see in Equation 1.8, ...

In Figure 1.1 ...

In Table 1.2 ...

In Section 1.1 ...

## 1.5 Lists

Unordered lists:

- entry 1
- entry 2

Unordered list with description:

**keyword 1** : description text 1

**keyword 2** : description text 2

Ordered lists:

1. entry 1
2. entry 2

## 1.6 Images



Figure 1.1: Optional image caption.

## 1.7 Tables

Table 1.1: Optional table caption.

| 1st column | 2nd column       |
|------------|------------------|
| row 1      | <i>entry 1.1</i> |
| row 2      | <i>entry 2</i>   |

Table 1.2: Optional table caption.

| 1st column | 2nd column     | 3rd column |
|------------|----------------|------------|
| row 1      | <i>entry 1</i> | number 1   |
|            | <b>entry 2</b> | number 2   |
| row 3      | <i>entry 3</i> | number 3   |

## 1.8 Bibliography

We cite Gurnett et al. [2007]...and Leclercq et al. [2016]. As we shown [Gurnett et al., 2007], ....

# Bibliography

- D. A. Gurnett, a. M. Persoon, William S. Kurth, J. B. Groene, T. F. Averkamp, Michele K. Dougherty, and D. J. Southwood. The variable rotation period of the inner region of Saturn’s plasma disk. *Science (New York, N.Y.)*, 316(5823):442–5, April 2007. ISSN 1095-9203. doi: 10.1126/science.1138562. URL <http://www.ncbi.nlm.nih.gov/pubmed/17379775>.
- L. Leclercq, R. Modolo, F. Leblanc, S. Hess, and M. Mancini. 3d magnetospheric parallel hybrid multi-grid method applied to planet–plasma interactions. *Journal of Computational Physics*, 309:295 – 313, 2016. ISSN 0021-9991. doi: <https://doi.org/10.1016/j.jcp.2016.01.005>. URL <http://www.sciencedirect.com/science/article/pii/S0021999116000061>.