

# Title of the Report

## 1 Introduction

Here are examples of citing references. A classic reference on the perturbation theory of linear operators is the text by Kato [1]. A discussion of the Runge-Kutta method can be found in most undergraduate texts on numerical analysis [2, 3].

Section 2 describes some background material. The amazing results of our analysis are given in Section 3.

## 2 Background

Here is an example of a numbered equation.

$$\frac{dy}{dx} = x^2 y \tag{1}$$

Equation (1) is a differential equation. Here is an equation that is not numbered.

$$m\ddot{x} + \gamma\dot{x} + kx = 0.$$

More complicated mathematical formulas are possible. For example,

$$\begin{pmatrix} 1 & 2 & 3 \\ 0 & 4 & 5 \\ 0 & 0 & 6 \end{pmatrix} \begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} \pi \\ -\pi^2 \\ \frac{1}{2} \end{pmatrix}$$

This sentence will have a footnote.<sup>1</sup>

Here is an example of how to include a postscript file as a figure. You can refer to Figure 1 using the same Latex command that you use to refer to sections. When you look at the Latex file, you will see that I used the [p] option with the figure environment. This tells Latex to put the figure on a separate page. You can experiment with other options (such as [h] for “here” and [b] for “bottom of the current page”).

There are many more useful things that you can do in Latex. For example, here is a list of stuff:

- This is the first entry.
- This is the second.
- And so on...

Here is a numbered list:

1. This is the first entry.
2. This is the second.

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<sup>1</sup>This is the footnote!

$n$	$n^2$	$n!$
1	1	1
2	4	2
3	9	6
4	16	24
5	25	120
6	36	720
7	49	5040
8	64	40320

Table 1: The values of  $n!$  and  $n^2$  for  $n$  from 1 to 8.

Here is an example of the **tabular** environment:

$n$	$n^2$	$n!$
1	1	1
2	4	2
3	9	6
4	16	24
5	25	120
6	36	720
7	49	5040
8	64	40320

You might want to treat a table like this the same way that a figure is treated. For example, I have put the same data into Table 1. Notice how it was removed from the flow of the text and put at the top of the page.

### 3 Results

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### References

- [1] T. Kato, *Perturbation Theory for Linear Operators*, Springer-Verlag, Berlin, 1980.
- [2] R. L. Burden, J. D. Faires, *Numerical Analysis (fifth edition)*, PWS Publishing Company, Boston, 1993.
- [3] J. H. Mathews, K. D. Fink, *Numerical Methods Using MATLAB (third edition)*, Prentice-Hall, New Jersey, 1999.

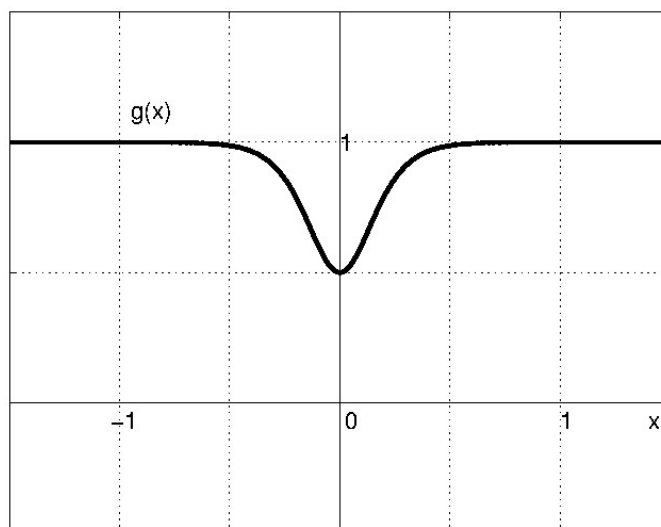


Figure 1: This is an example of a figure that contains a postscript file.