Applied ODE Equations

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2023 年 9 月 1 日

目录

基本内容

- 1. 引言
- 2. 绪论
- 3. 定理的证明

常见的微分方程

> ### ODES Ordinary Form
>
> 标准形式$\dfrac{dy}{dx}+p(x) = q(x)$
>
> $$\text{通解}y = e^{-\int p(x)dx} \cdot \int [e^{\int p(x)dx} \cdot q(x) + C]dx \quad (1)$$

明显的自己的 tcolorbox 没有 beamer 中自带的 therom 环境的样式协调

A sample slide In Multi columns

在 Beamer 中的 columns 环境提供了一个简便的方法将幻灯片分成数栏。这在幻灯片中放置图片或创建多栏（multi-column）常规列表（itemized lists）时特别有用。

定理 (The Poincaré inequality)

Suppose $\Omega \in \mathbf{R}^n$ is a bounded domain with smooth boundary. Then there exists a $\lambda > 0$, depending only on Ω, such that for any function f in the Sobolev space $H_0^1(\Omega)$ we have:

$$\int_\Omega |\nabla u|^2 \, dx \geq \lambda \int_\Omega |u|^2 \, dx.$$

Here is what *itemized* and *enumerated* lists look like:

- itemized item 1
- itemized item 2
- itemized item 3

1. enumerated item 1
2. enumerated item 2
3. enumerated item 3

Splitting a slide into columns

T̲ʜᴇ line you are reading goes all the way across the slide. From the left margin to the right margin. Now we are going the split the slide into two columns.

Here is the first column. We put an itemized list in it.

- This is an item
- This is another item
- Yet another item

Here is the second column. We will put a picture in it.

The line you are reading goes all the way across the slide. From the left margin to the right margin.

Top alignment

This is the contents of the slide.

Center alignment (default)

This is the contents of the slide.

Bottom alignment

This is the contents of the slide.

字号设置

Beamer 的默认字体尺寸是 11 点 (points)。在 \documentclass 这一行，可以设定默认字体尺寸为 8、9、10、11、12、14、17、20 点。例如，要设定默认的字体尺寸为 14 点，请这样做:

```
\documentclass[14pt]{beamer}
```

假如要设置结构字体，可以使用如下的命令
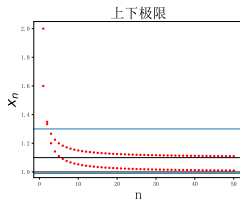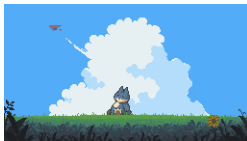

```
% 使用规定好的标准大小
\setbeamerfont{frametitle}{size=\large}
% 使用自定义大小（不推荐）:
% 格式: size*={ size in pt }{ baselineskip }
% \setbeamerfont{frametitle}{size={\fontsize{6pt}{0pt}}}
```
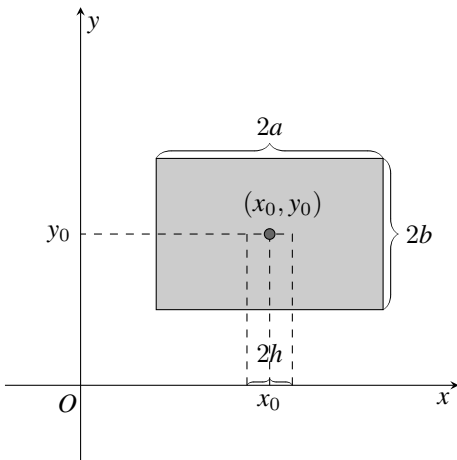
插入图片

下边插入了一个 pdf 和一个 jpg 的图片文件

TiKZ in Beamer

如右图所示:

- 1. M 就是阴影区域 $f(x, y)$ 的最大值
- 2. $y = \varphi(x)$ 的唯一性在 $x \in [x_0 - h, x_0 + h]$ 上能够保证

Outline of the talk

- Introduction

- Introduction
- Statement of the main theorem

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- Technical lemmata

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Fermat's Last Theorem

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Fermat's Last Theorem says that the equation

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has no solution in the set of natural numbers.

This is not true. After a lengthy calculation on the department's Linux machines, I have verified that within the numerical accuracy of the Pentium-4 processor, we have:

$$5000^2 + 12000^2 = 13000^2$$

Introduction

This slide is labeled "intro".

Some other slide

If you click here, you will jump to the slide labeled "intro".

Clicking here will also take you to the "intro" slide.

注: 使用 Alt + ← 跳转回来

注: 在 pdf 文件关闭的情况下写入, 此时 pdf 文件被锁死了, 无法写入

使用脚注

Fnote 环境带有两个参数，它们指定了脚步注的位置即相对于幻灯片的左上角。一张 Beamer 幻灯片的大小是 128mm × 96mm。这有利于你设定这些参数。

V. Jikov, S. Kozlov and O. Olenik, Homogenization of differential operators and integral functionals, Springer, 1994.

数学公式字体

打字机字体:

$$\texttt{Hello world from \LaTeX}$$

数学公式粗体:

$$a + b \times c \neq \boldsymbol{a} + \boldsymbol{b} \times \boldsymbol{c}$$

数学公式伪粗体:

$$\int k = \boldsymbol{\int k}$$

高质量粗体:

$$\sum \int (k \oplus j)\, dx \neq \boldsymbol{\sum \int (k \oplus j)\, dx}$$

Frame 的缩放

一大段的文字:

这将按比例缩小幻灯片的内容至少 50% ，如果需要，还能缩小更多，直至内容完全能被幻灯片所容纳。

为达到最佳效果，你指定的缩小因子应尽可能接近所需的数值。如果你指定的缩小因子的值不合适，Beamer 将发出警告。调整缩小因子直至警告消失。然而，幻灯片的水平间隙（horizontal spacing）将不是最佳的。

你不应滥用这个缩小功能——少量的缩小不会引人注意，到处都使用了缩小就会让人看着不愉快。

字体的前景与背景高亮

This text is highlighted in red

This text is in blue