



# 数项级数的进一步讨论

---

徐海峰

December 6, 2024

数学科学学院, 扬州大学

此幻灯片的教学内容面向非数学专业的理工科本科生.

内容完全基于下面的教材:

梅加强编著《数学分析》，高等教育出版社.

---

其他参考文献.

## 级数求和与求极限的可交换性

---

## 定理

若  $\lim_{x \rightarrow x_0} f(x)$  与  $\lim_{x \rightarrow x_0} g(x)$  都存在, 则

$$\bullet \lim_{x \rightarrow x_0} [f(x) \pm g(x)] = \lim_{x \rightarrow x_0} f(x) \pm \lim_{x \rightarrow x_0} g(x);$$

$$\bullet \lim_{x \rightarrow x_0} [f(x) \cdot g(x)] = \lim_{x \rightarrow x_0} f(x) \cdot \lim_{x \rightarrow x_0} g(x);$$

$$\bullet \lim_{x \rightarrow x_0} \frac{f(x)}{g(x)} = \frac{\lim_{x \rightarrow x_0} f(x)}{\lim_{x \rightarrow x_0} g(x)}, \text{ 这里 } \lim_{x \rightarrow x_0} g(x) \neq 0.$$

# Math Expressions

---



### 定理

*The following statement is correct*

$$\frac{\partial f(\vec{x})}{\partial x_i} = \sum_{l=1}^L \cos\left(l\frac{2\pi}{L} + 0\right) \quad (1)$$

# Elements

---



The theme provides sensible defaults to `\emph{emphasize}` text, `\alert{accent}` parts or show `\textbf{bold}` results.

becomes

The theme provides sensible defaults to *emphasize* text, **accent** parts or show **bold** results.

## Font feature test

---

- Regular
- *Italic*
- SMALL CAPS
- **Bold**
- ***Bold Italic***
- **Bold Small Caps**
- Monospace
- *Monospace Italic*
- **Monospace Bold**
- ***Monospace Bold Italic***

## Items

- Milk
- Eggs
- Potatoes

## Enumerations

1. First,
2. Second and
3. Last.

## Descriptions

PowerPoint Meeh.  
Beamer Yeeeha.

**Table 1:** Largest cities in the world (source: Wikipedia)

City	Population
Mexico City	20,116,842
Shanghai	19,210,000
Peking	15,796,450
Istanbul	14,160,467

# Blocks

Three different block environments are pre-defined and may be styled with an optional background color.

## Default

Block content.

## Alert

Block content.

## Example

Block content.

## Default

Block content.

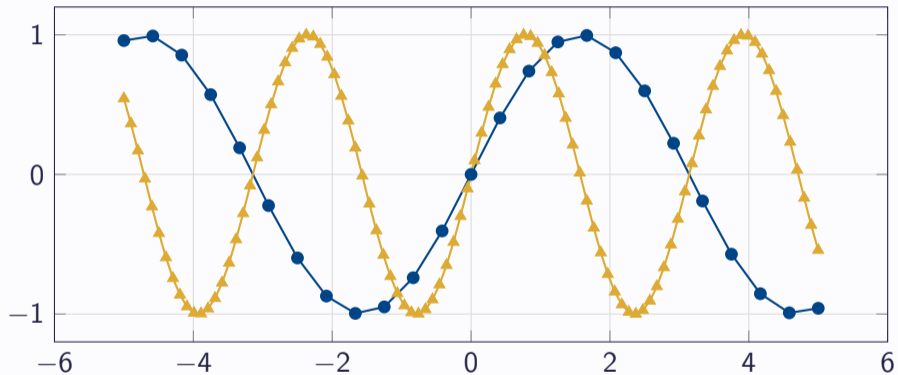
## Alert

Block content.

## Example

Block content.

## Line plots



欢迎访问 [atzjg.net](http://atzjg.net)

## Backup slides

Sometimes, it is useful to add slides at the end of your presentation to refer to during audience questions.

The best way to do this is to include the `appendixnumberbeamer` package in your preamble and call `\appendix` before your backup slides.

The theme will automatically turn off slide numbering and progress bars for slides in the appendix.



欢迎访问 [atzjg.net](http://atzjg.net)