Theorem 1: 级数的基本收敛判别法

1. (柯西收敛) $\forall \varepsilon > 0 \exists N \in \mathbb{N}\ \forall n > m > N \in \mathbb{N}$ 使得$\left|\sum_{m+1}^{n} a_n\right| < \varepsilon$
2. (等价形式) $\forall \varepsilon > 0 \exists N \in \mathbb{N} \forall n \geq N$ so $(\forall p \in \mathbb{N}\ \left|\sum_{n}^{n+p} a_n\right| < \varepsilon)$

with

Theorem 2: 收敛级数的线性

若$\displaystyle\sum_{n}^{\infty} a_n, \sum_{n}^{\infty} b_n$都收敛,则

$$\alpha \sum_{n}^{\infty} a_n + \beta \sum_{n}^{\infty} b_n \tag{1}$$

也收敛

Th. 1
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