

§ Fourier Series



Joseph Fourier 1768-1830

熱傳導(Propagation of heat)與振動理論

1824 年發現溫室效應

振動 Vibration: 來回運動

震盪 Oscillation 來回變化

[演算法筆記](#): Wave

3.1 Eigensolutions of Linear Evolution Equations

The Heated Ring

3.2 Fourier Series

Periodic Extensions Piecewise Continuous Functions

The Convergence Theorem Even and Odd Functions

Complex Fourier Series

3.3 Differentiation and Integration

3.4 Change of Scale

3.5 Convergence of Fourier Series

Smoothness and Decay Hilbert Space Convergence in Norm

Completeness Pointwise Convergence