

Lecture 42: Laurent series

Math 660—Jim Fowler

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Taylor series, Fourier series

A **Fourier series** decomposes a 2π -periodic function $f : S^1 \rightarrow \mathbb{R}$ into a trigonometric polynomial (i.e., a sum of $\sin(nx)$ and $\cos(nx)$).

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The Taylor series around the center of the disk expresses the boundary function as trigonometric polynomial.

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Convergence occurs in an annulus.