

Coherent vs Incoherent Imaging Aberration in Imaging systems

System analysis

Optical Systems

Imaging Formation

Resolution and Point Spread Function

Optical Transfer Function

Wave Propagation Fresnel/Fraunhofer
Diffraction

Fourier Transform by Lens

Diffraction

Discrete

Tools

Sampling and Interpolation

Discrete Fourier Transform (DFT)

Discrete Convolution

Fourier Series

Fourier Transform

Convolution Theorem

Linear shiftinvariant systems

Impulse Response Function

Convolution and Correlation

Complex numbers and functions





Electric and magnetic fields

Amplitude Modulation

(e.g. aperture, apodization)

Phase Modulation

(e.g. gratings, aberrations)

Complex numbers and functions





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Incoherent Imaging

Aberration in Imaging systems

Imaging Formation

Resolution and Point Spread Function

Optical Transfer Function

Optical
Systems

Point spread function
System response

Fourier Transform

Linear shiftinvariant systems

Fourier Series

Impulse Response Function

Transformation of field/ intensity through an Optical system

Convolution and Correlation

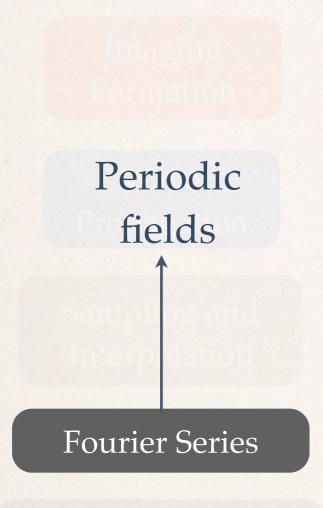
Complex numbers and functions





Coherent vs Incoherent Imaging

Aberration in Imaging systems



Linear shiftnvariant systems Frequency domain representation of Optical systems

Fourier Transform

Impulse Response Function Spatial/temporal to/from
Frequency domain

Convolution Theorem

Convolution and Correlation

Complex numbers and functions





