

DIGITAL IMAGE PROCESSING

Image Enhancement in Frequency Domain: Session 3

Dr. Mrinmoy Ghorai

**Indian Institute of Information Technology
Sri City, Andhra Pradesh**

Today's Lecture

- **Image Enhancement in Frequency Domain**
 - **Filtering in Frequency Domain**

Image Enhancement in Frequency Domain

2-D Convolution Theorem



Image Enhancement in Frequency Domain

1-D Impulses and the Shifting Property: Continuous

Image Enhancement in Frequency Domain

1- D Impulses and the Shifting Property: Discrete

Image Enhancement in Frequency Domain

2-D Impulses and the Shifting Property: Continuous

Image Enhancement in Frequency Domain

2-D Impulses and the Shifting Property: Discrete

Image Enhancement in Frequency Domain

Image Enhancement in Frequency Domain

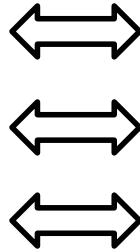




Image Enhancement in Frequency Domain

Spatial Domain vs. Frequency Domain Filtering

1. Both components are Gaussian and real
2. The functions behave reciprocally

Image Enhancement in Frequency Domain

Spatial Domain vs. Frequency Domain Filtering

High-pass filter or low-pass filter ?

Image Enhancement in Frequency Domain

Spatial Domain vs. Frequency Domain Filtering

Image Enhancement in Frequency Domain

Spatial Domain vs. Frequency Domain Filtering

Image Enhancement in Frequency Domain

Spatial Domain vs. Frequency Domain Filtering

Next Class

- **Image Enhancement in Frequency Domain**
 - **Filtering in Frequency Domain**

**Thank you:
Question?**