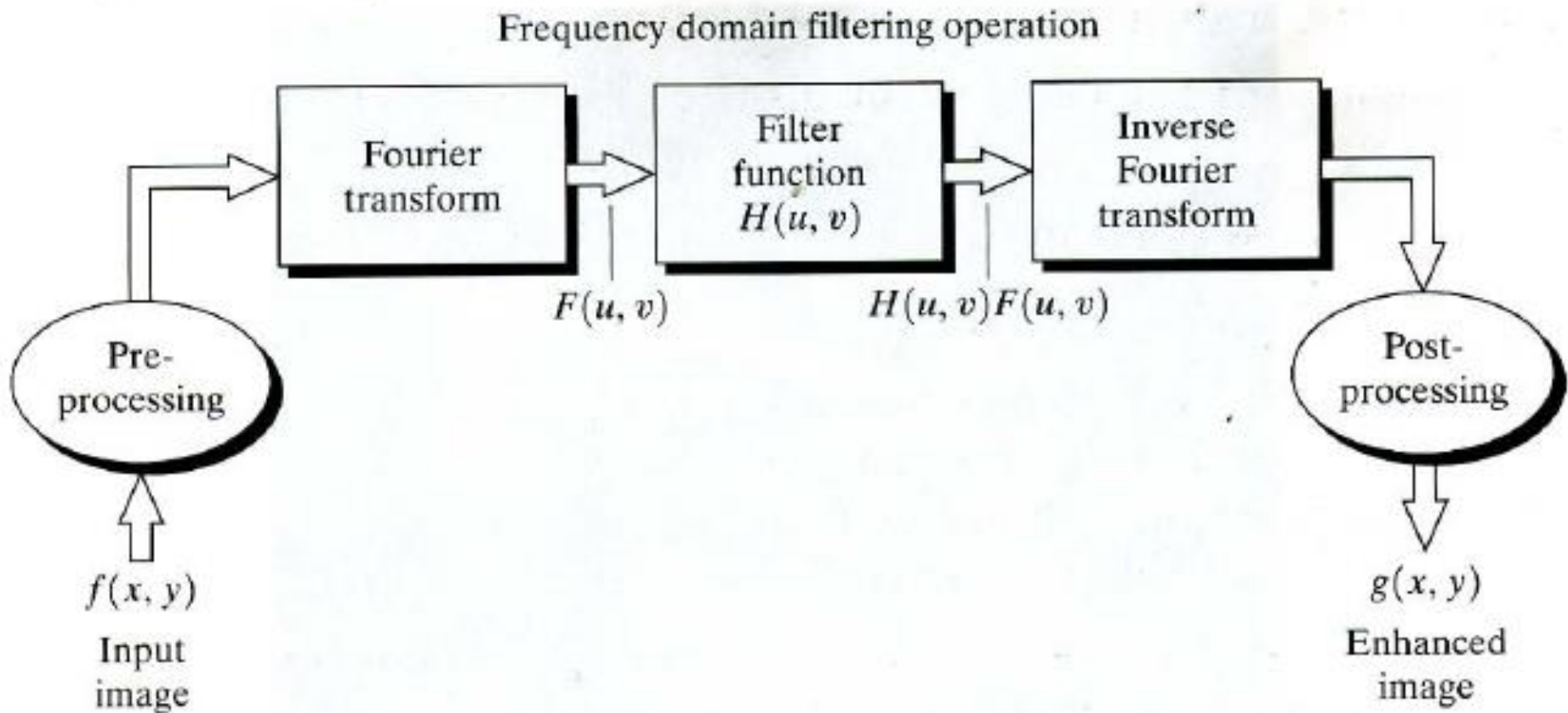


Filtering in frequency domain



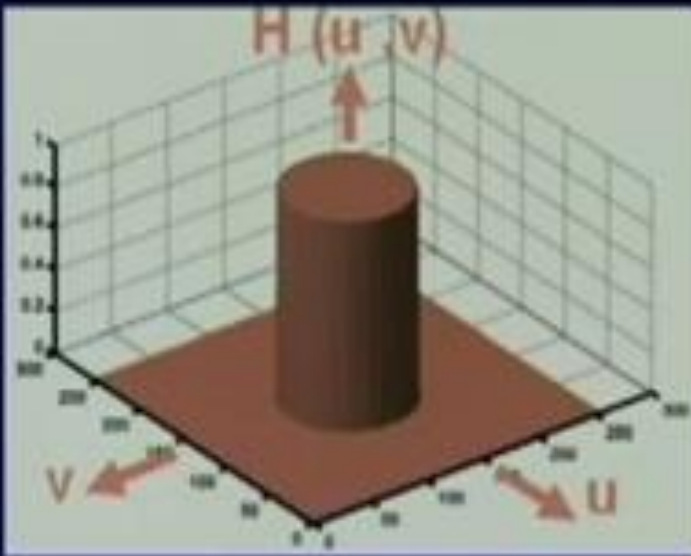
Basic steps for filtering in frequency domain

Transform Domain Methods

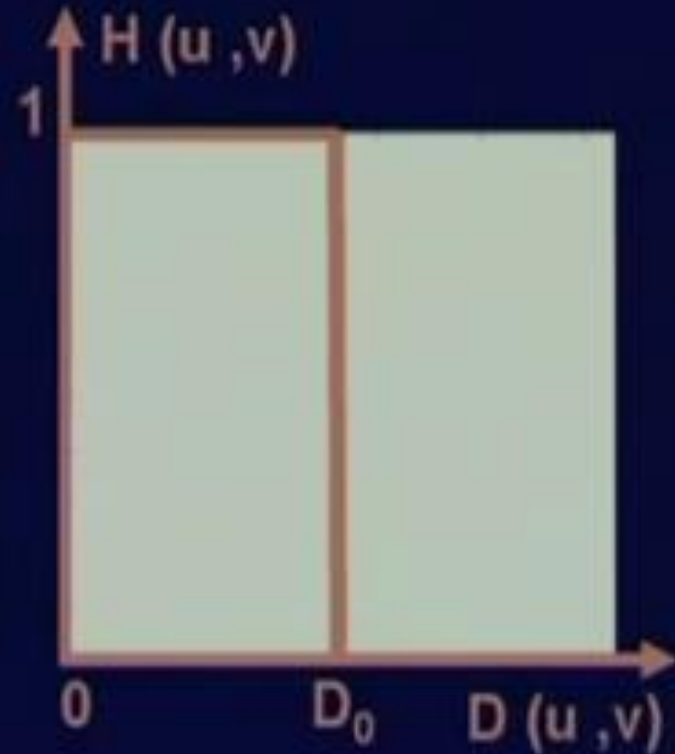
- Interesting image information cannot be separated out in the spatial domain but can be isolated in the transform domain.
- For example, one can amplify certain coefficients in the Fourier domain and then recover the image in the spatial domain to highlight interesting image content.

- When an image is transformed into the frequency domain,
 - low-frequency components correspond to smooth regions or large structures in the image;
 - high-frequency components are dominated by noise.

Ideal Low Pass Filter

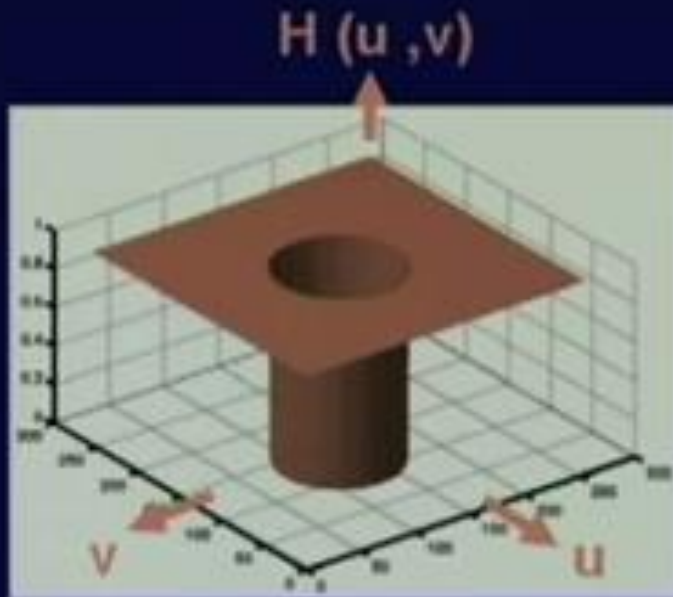


Perspective plot

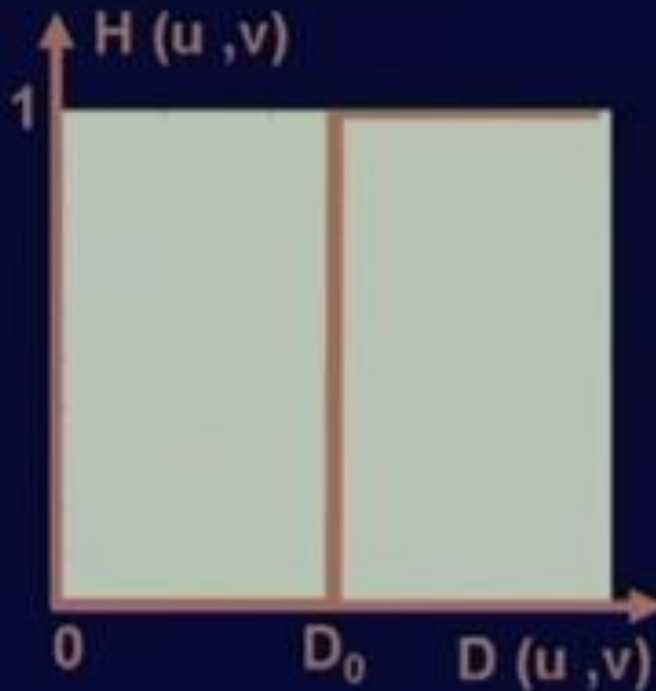


Cross section

Ideal High Pass Filter



Perspective plot



Cross section