1. Minimum Mean Square Error (MMSE) Linear Filters
2. The four original images *img14g.tif*, *img14bl.tif*, *img14gn.tif*, and *img14sp.tif*



*Figure 1: img14g.tif*

*A person wearing headphones

Description automatically generated with medium confidence*

*Figure 2: img14bl.tif*

*A person wearing headphones

Description automatically generated with medium confidence*

*Figure 3: img14gn.tif*

*A person wearing headphones

Description automatically generated with medium confidence*

*Figure 4: img14sp.tif*

1. The output of the optimal filtering for the blurred image and the two noisy images

A picture containing text, person, indoor, posing

Description automatically generated

*Figure 5: Blurred restoration*

*A person wearing headphones

Description automatically generated with medium confidence*

*Figure 6: Grainy Restoration*

*A picture containing text, person, indoor, suit

Description automatically generated*

*Figure 7: Speckled Restoration*

1. The MMSE filters that were computed for the blurred image and the two noisy images

Blurred Image (*img14bl.tif*) Filter (Sum of θ\* = 1.0045):

Grainy Noisy Image (*img14gn.tif*) Filter (Sum of θ\* = 1.0082):

Speckled Noisy Image (*img14sp.tif*) Filter (Sum of θ\* = 1.0054):

1. Weighted Median Filtering
2. Results of median filtering

A person wearing headphones

Description automatically generated with medium confidence

*Figure 8: Weighted Median Filtered Result for img14gn.tif*

*A person wearing headphones

Description automatically generated with medium confidence*

*Figure 9: Weighted Median Filtered Result for img14sp.tif*

1. Attached C Code 🡪 \*See Next Page\*