

1. Kodak sigma 10 (Noisy)

Running the code over a complete image was very much time taking so we have demonstrated the results over the patch of image implementing the same functionality.



2. Kodak standard deviation=10 $\sigma_s = 2$, $\sigma_r = 2$ (smoothened)



3. Kodak standard deviation=10 $h_s = 0.1$ hr=0.1



4. Kodak standard deviation=10, $h_s = 3$ hr=15



5. kodak with standard deviation = 5 (Noisy image)



6. Standard deviation =5, $h_s=2$ $h_r=2$



7. $\Sigma = 5 \text{ hs} = 0.1 \text{ hr} = 0.1$



8. Standard deviation = 5 , $h_s = 3$ $h_r = 15$



1. Noisy image with standard deviation =10



2. Mean shift filter output at $h_s=3$ and $h_r=15$



3. Mean shift output at $h_s=0.1$ and $h_r=0.1$



4. Mean shift output at $h_s=2$ and $h_r=2$



5. Standard deviation =5 (Noisy image)



6. Mean shift output at $h_s=3$ and $h_r=15$ (std = 5)



General observation through the output :

$H_s = 3$ and $H_r = 15$ image smoothens a lot and seems quite washed out.

$H_s = 0.1$ and $H_r = 0.1$ not much different as compared to noisy image.

$H_s = 2$ and $H_r = 2$ image smoothens and the level of smoothing is like image is more smooth as compared to output obtained using $h_s = 0.1$ and $h_r = 0.1$ and less than the smoothing level of $h_s = 3$ and $h_r = 15$.