To understand filtering of images in Matlab

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1 Introduction

Objectives for the experiment is to understand filtering of images in MATLAB.

- Low & High Pass filters, their effect on images and working
- Edge Detection in Images

1.1 Results and discussions in Matlab

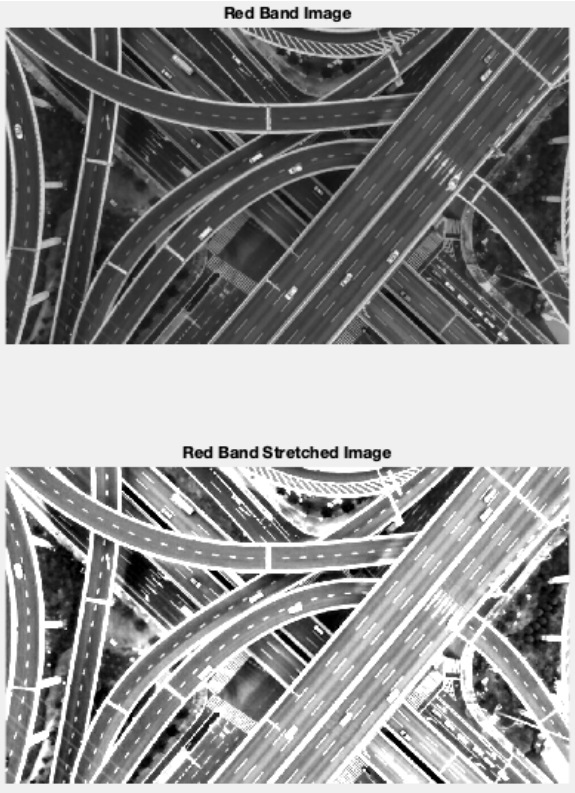

Figure 1: Original Red Band Image vs Stretched Red Band Image

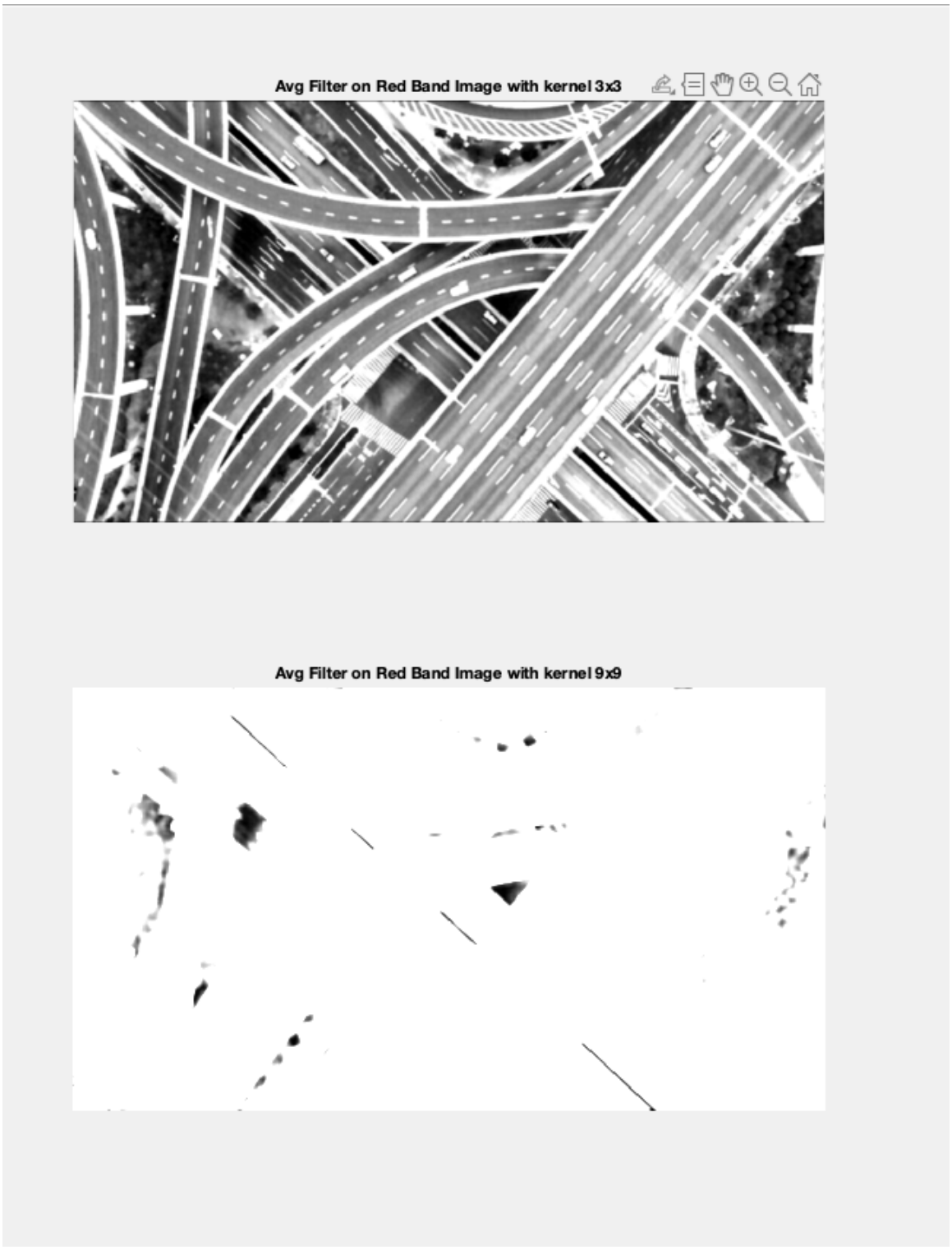

Figure 2: Avg. Filter applied on Red Band Image with 3x3 and 9x9 kernel

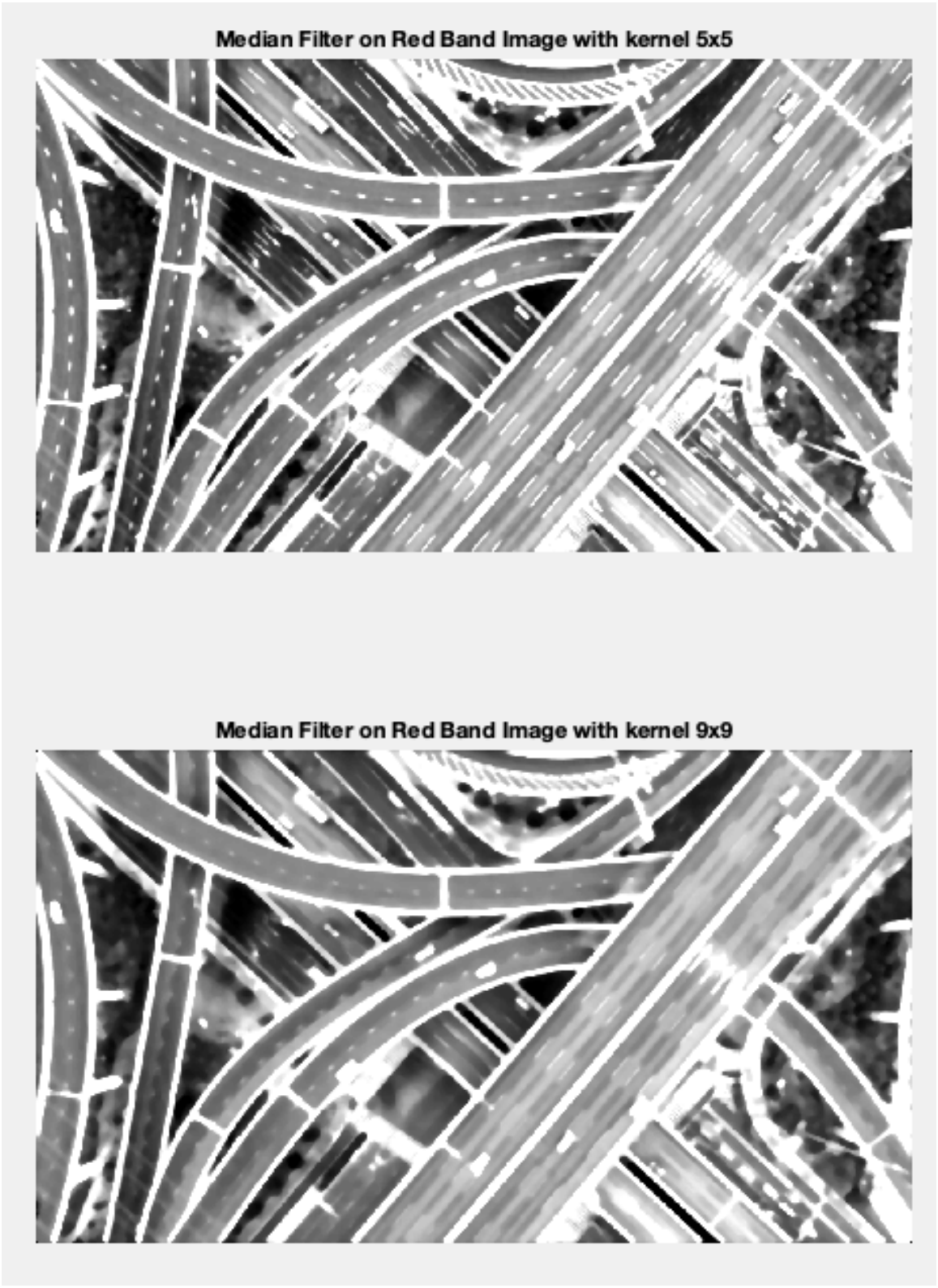

Figure 3: Median Filter applied on Red Band Image with 5x5 and 9x9 kernel

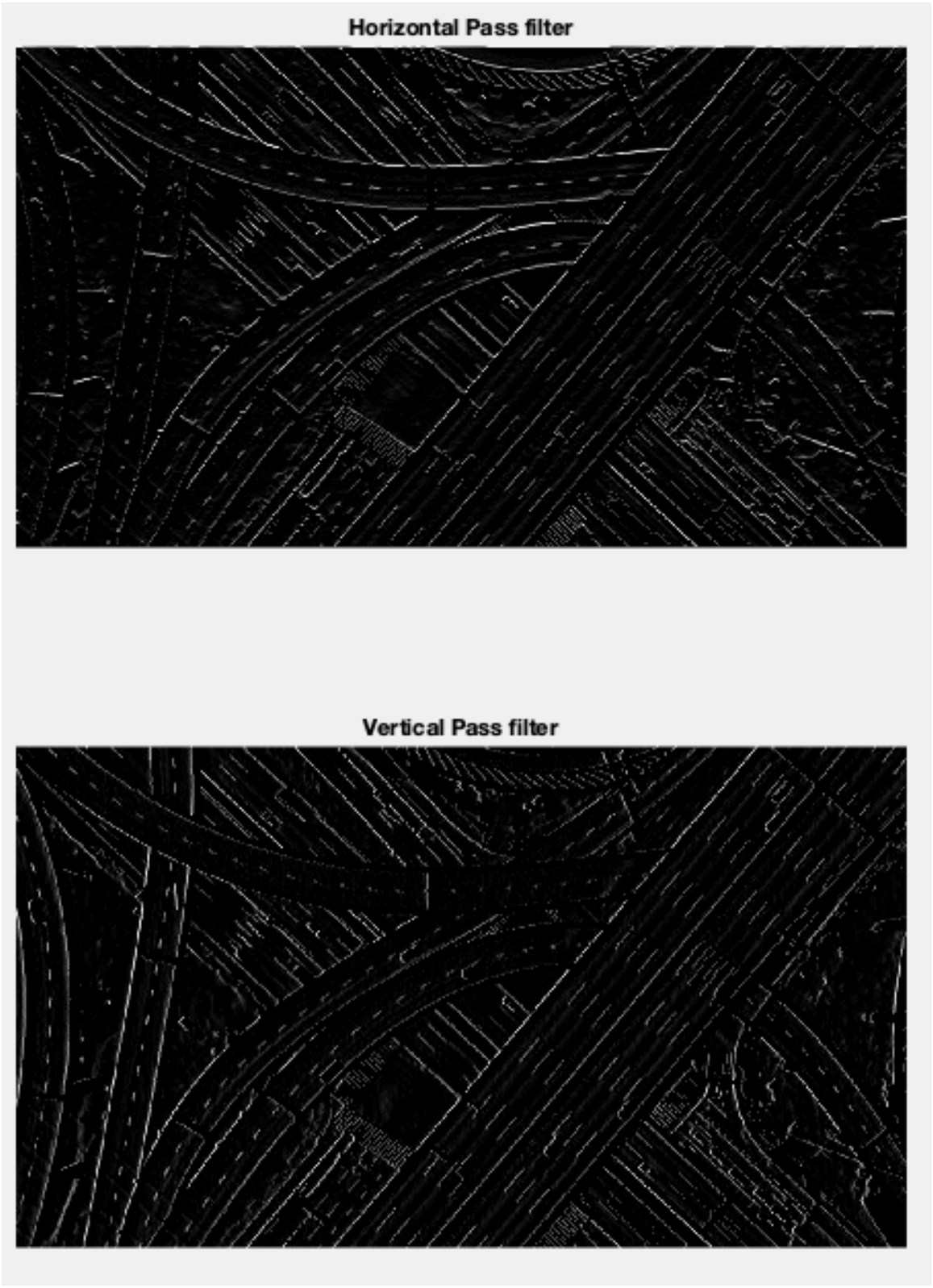

Figure 4: Horizontal Pass filter vs Vertical Pass filter

- Avg Filter - Blurs out the edges and the Sharp details based on the neighbouring cells.
- Median Filter - It is used to retain edges and sharp details while removing the noise.
- Horizontal/Vertical Filter - Only the edges is being highlighted and the remaining image is black.