Computer Vision
FALL 2020
Problem Set #4
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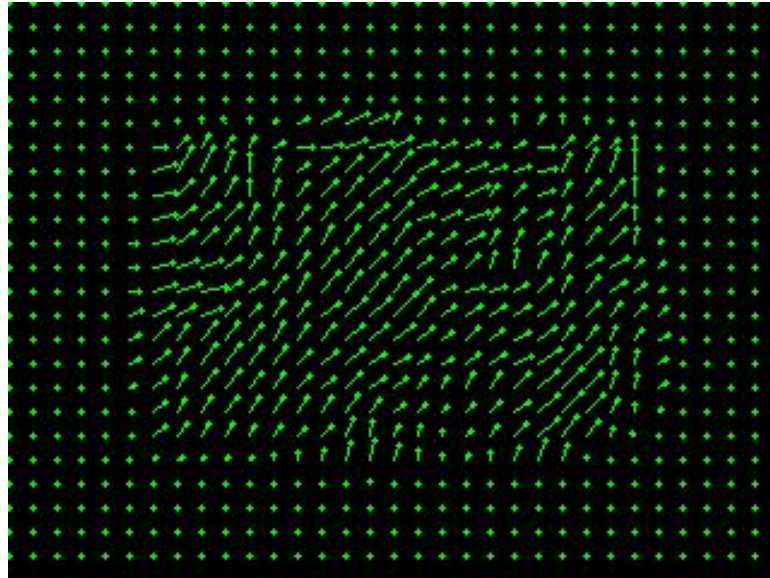
wzeng40@gatech.edu
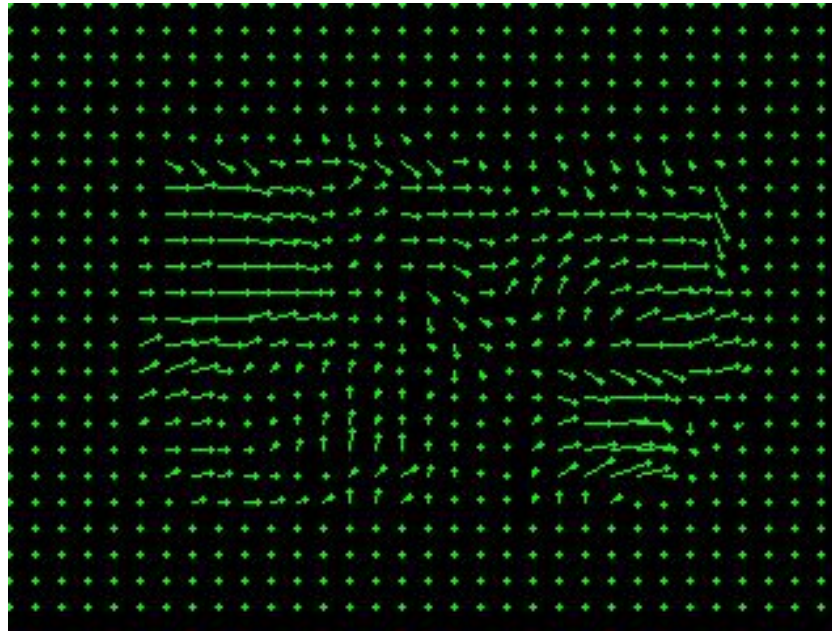
1a: Base shift0 and shiftR2
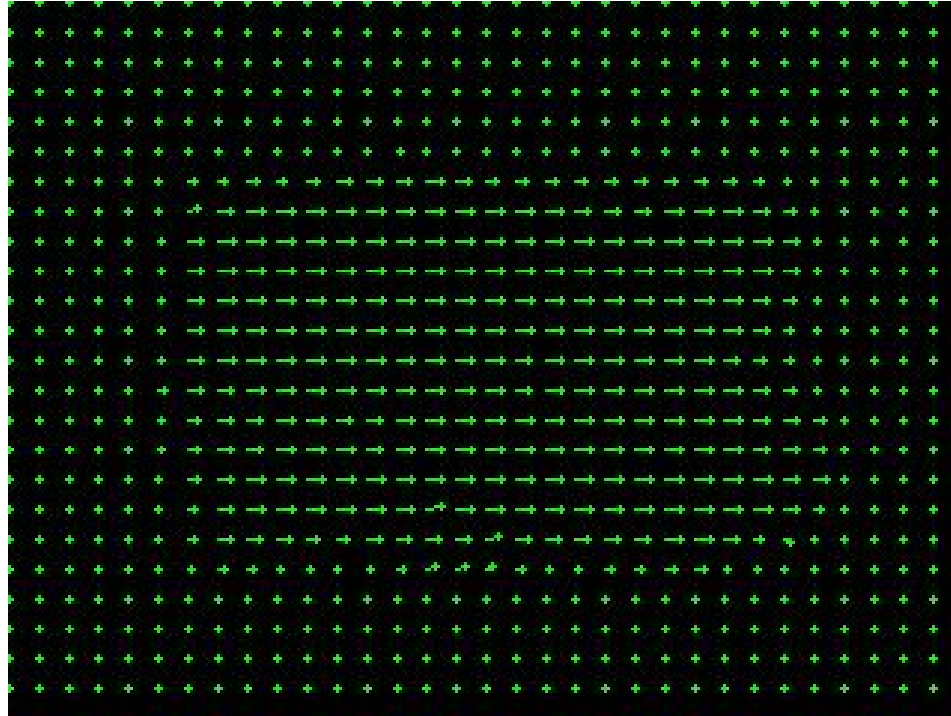
ps4-1-a-1
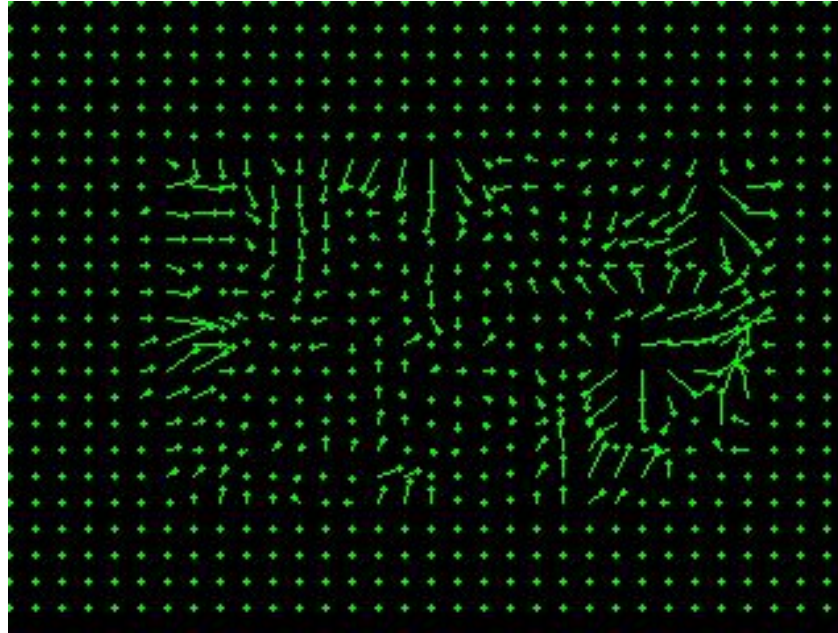
1a: Base shift0 and shiftR5U5

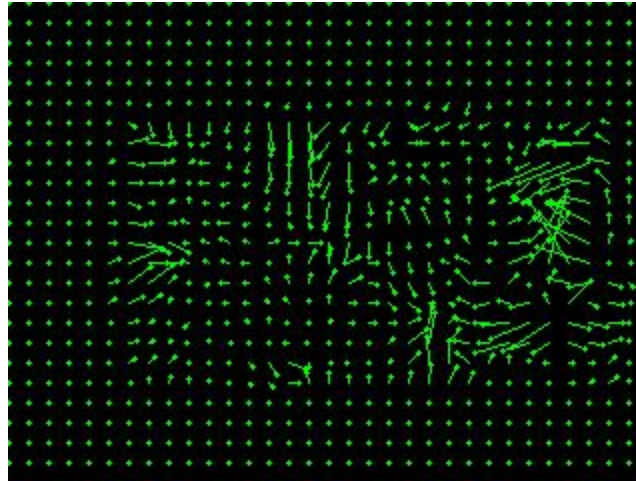
ps4-1-a-2

1b. Base Shift0 and ShiftR10

ps4-1-b-1

1b. Base Shift0 and ShiftR20

ps4-1-b-2

1b. Base Shift0 and ShiftR40
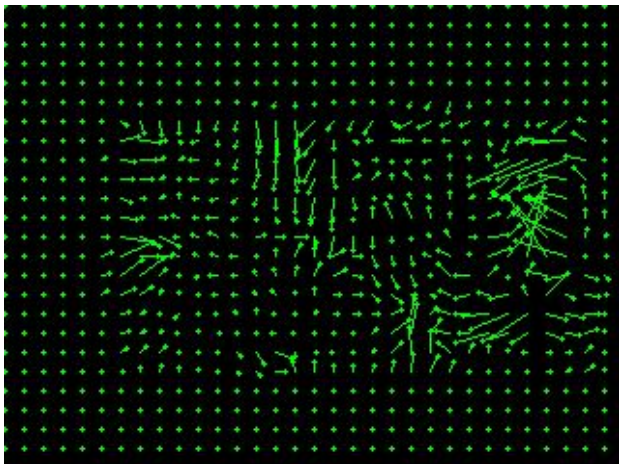

ps4-1-b-3

1b: Text Response

Does LK still work? Does it fall apart on any of the pairs? Try using different
parameters to get results closer to the ones above. Describe your results and what you tried.

LK gets worse as the distance shifted increases. For example, from Shift_0 to Shift_r40, the optic flow is less accurate than the Shift_0 to Shift_R10. Blurring helps by increasing the k_size, however, it still is not as accurate, the image sets for 1b performed worse than the image sets of 1a even with blurring.
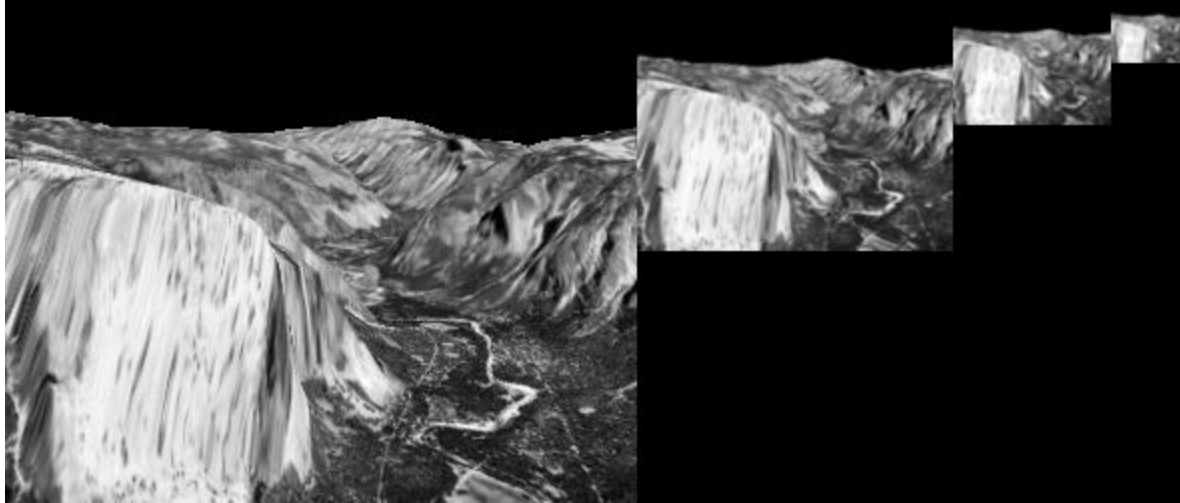
The parameters I've tried:

k_size = 33   to   k_size = 39

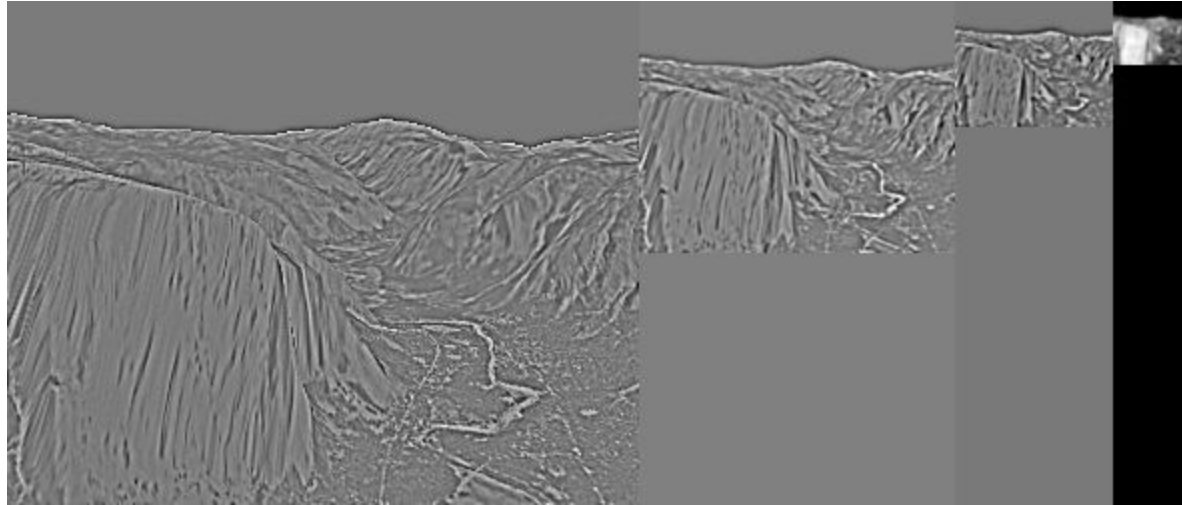The accuracy of k_size = 39 was better than k_size = 33, but the optic flow is still inaccurate.
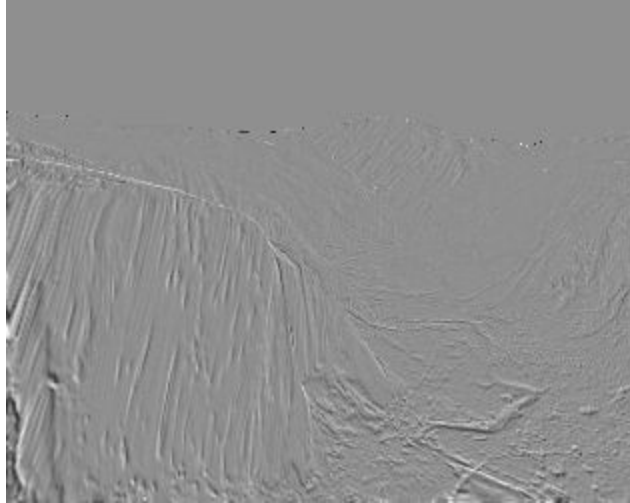

ps4-1-b-3

2a. Gaussian Pyramid

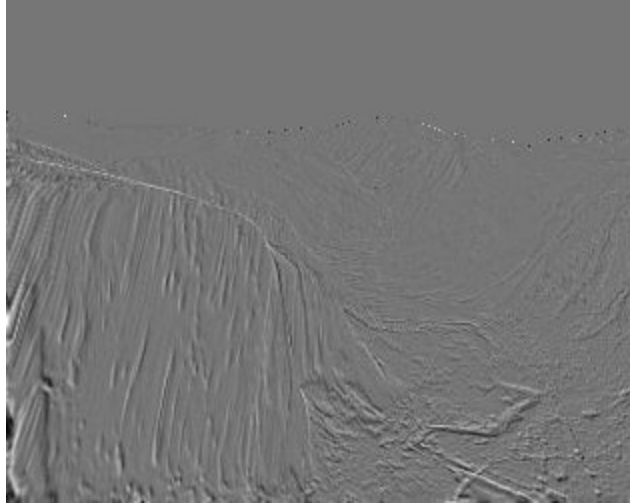ps4-2-a-1

2b. Laplacian Pyramid

ps4-2-b-1

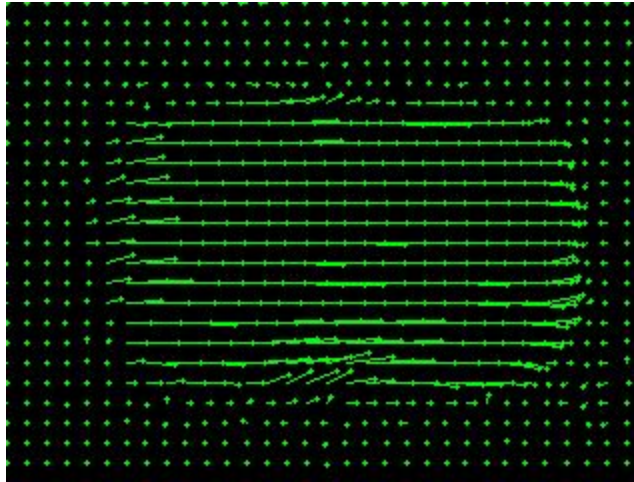# 3a. Difference Images

ps4-3-a-1

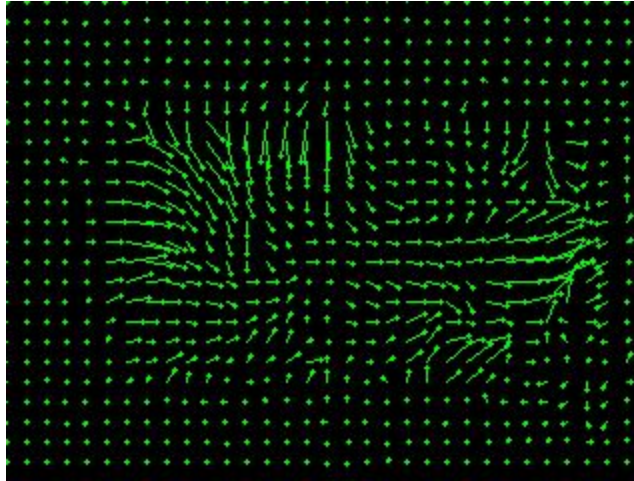# 3a. Difference Images (cont)

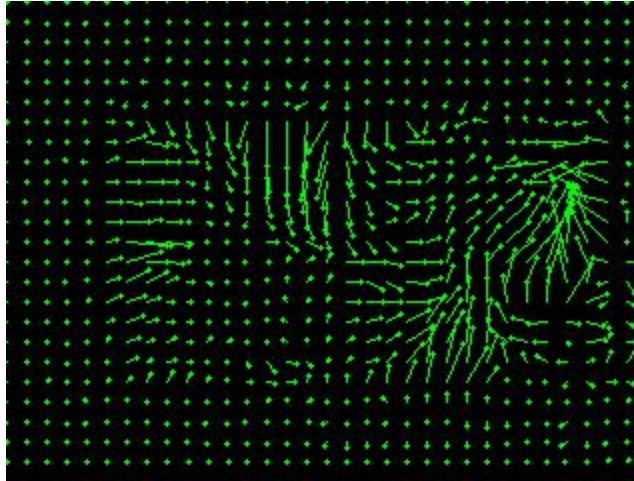ps4-3-a-2

4a. Hierarchy LK

ps4-4-a-1

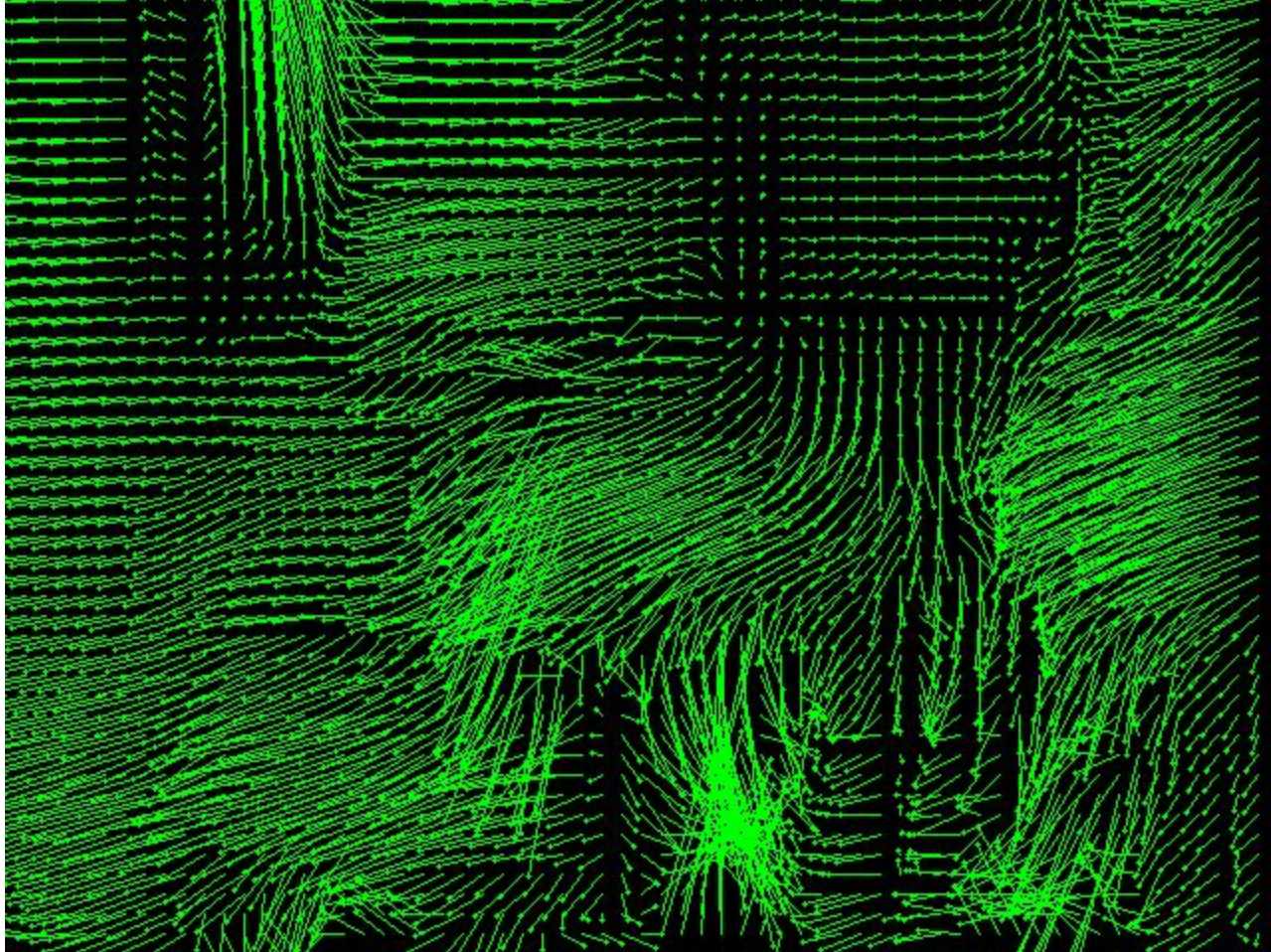# 4a. Hierarchy LK (cont)

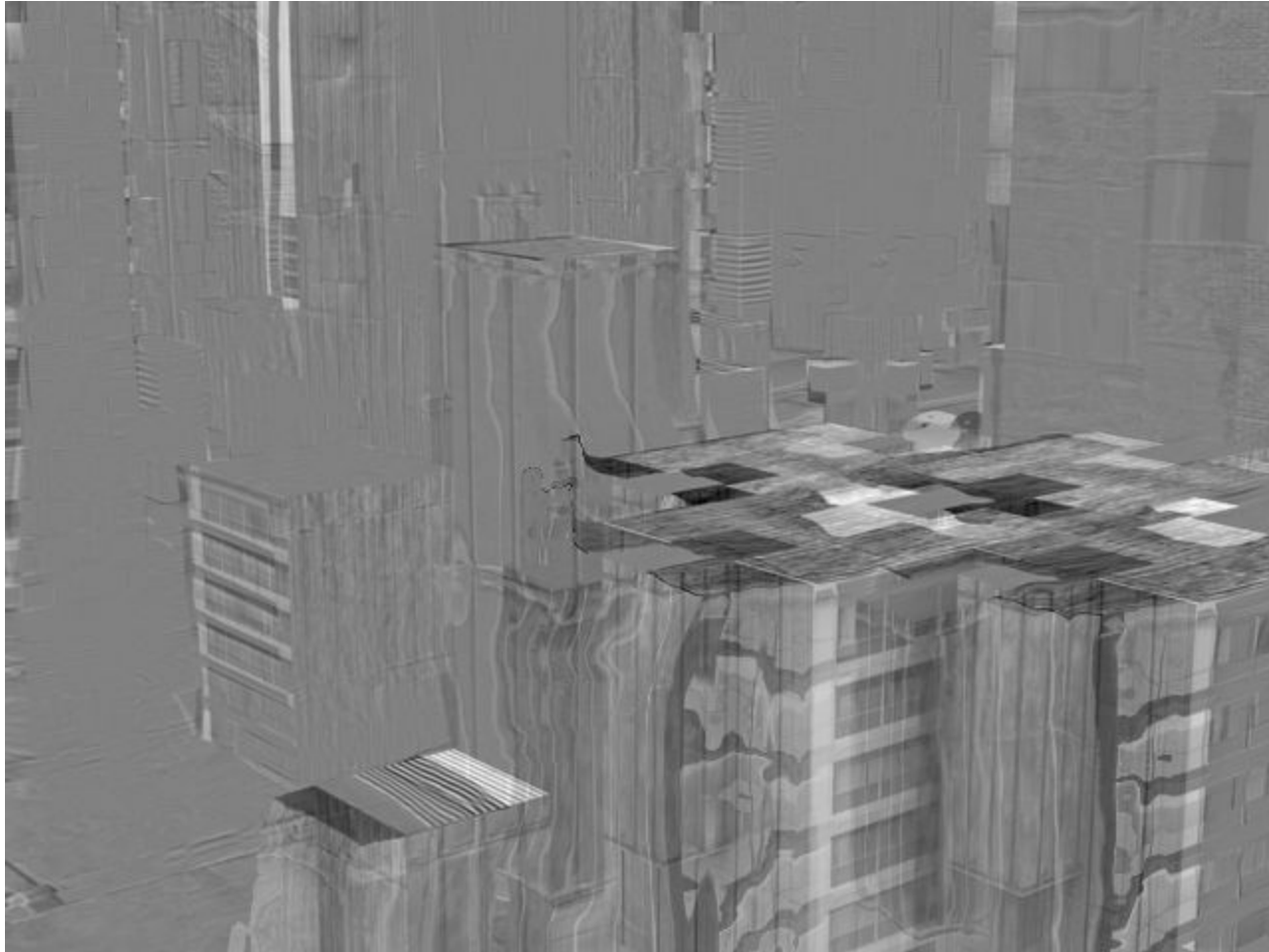ps4-4-a-2

4a. Hierarchy LK (cont)

ps4-4-a-3
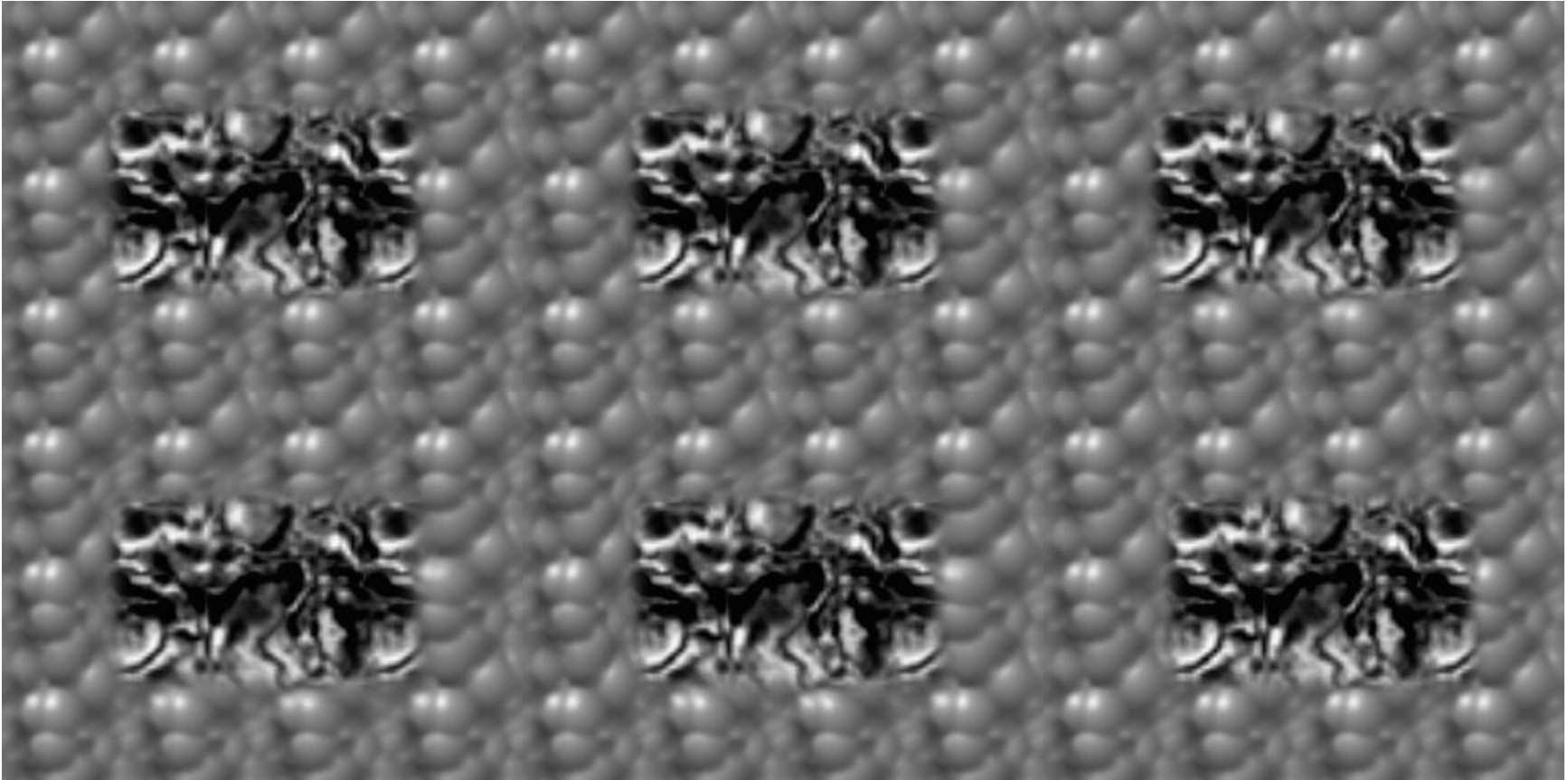
4b. Hierarchy LK (cont)

ps4-4-b-1

4b. Hierarchy LK (cont)

ps4-4-b-2

5a. Frame Interpolation

ps4-5-1-a-1

5b. Frame Interpolation

ps4-5-1-b-1

5b. Frame Interpolation

ps4-5-1-b-2

6: Challenge Problem

Skipped

6: Challenge Problem

Skipped

6: Challenge Problem

Skipped