

```
% If we treat every previous frame as a reference frame
```

```
% read video file
vidReader = VideoReader('./IMG_5905.MOV','CurrentTime',1);
% init opticFlow object
opticFlow = opticalFlowLK('NoiseThreshold',0.009);

% init plot object
h = figure;
movegui(h);
hViewPanel = uipanel(h,'Position',[0 0 1 1], 'Title','Plot of Optical Flow Vectors');
hPlot = axes(hViewPanel);

% process frames
while hasFrame(vidReader)
    % read a frame
    frameRGB = readFrame(vidReader);
    frameGray = rgb2gray(frameRGB); % in some versions, using im2grpy(frameRGB)

    % estimate optical flow
    flow = estimateFlow(opticFlow,frameGray);

    % show optical flow
    imshow(frameRGB)
    hold on
    plot(flow,'DecimationFactor',[5 5], 'ScaleFactor',10, 'Parent',hPlot);
    hold off
    pause(10^-3)
end
```



```
% If we treat every 11th frame as a reference frame
```

```
% read video file
vidReader = VideoReader('./IMG_5905.MOV', 'CurrentTime', 1);
% init opticFlow object
opticFlow = opticalFlowLK('NoiseThreshold', 0.009);

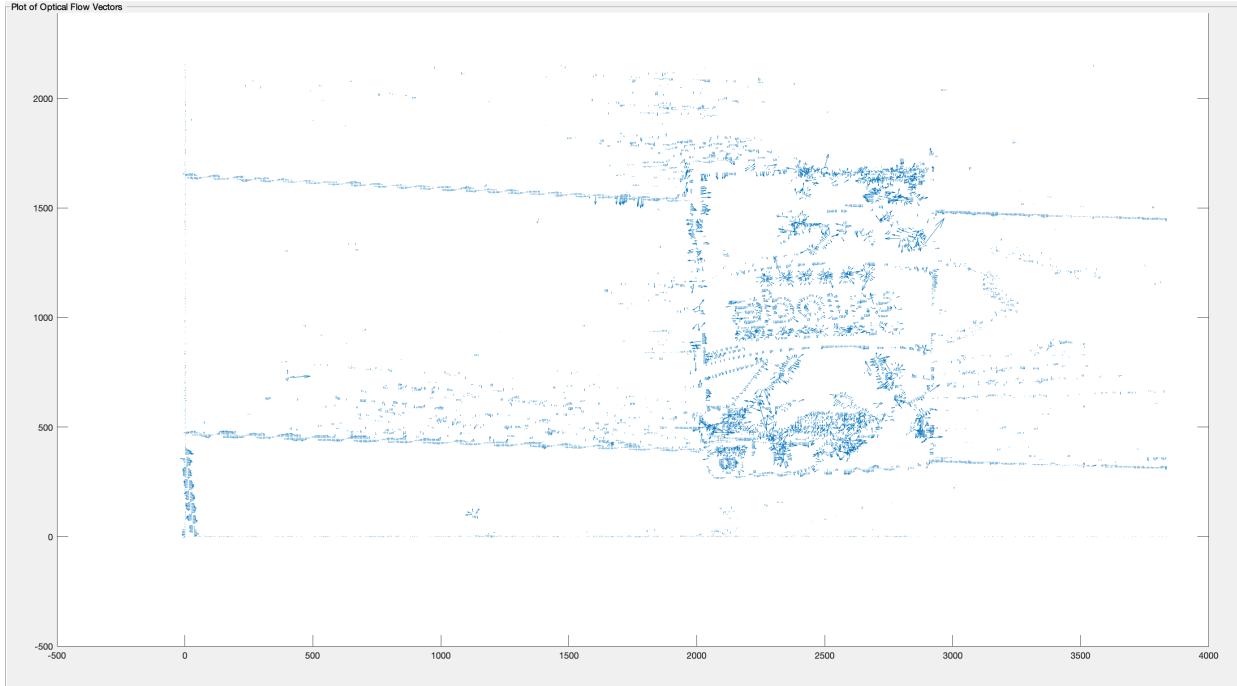
h = figure;
movegui(h);
hViewPanel = uipanel(h, 'Position', [0 0 1 1], 'Title', 'Plot of Optical Flow Vectors');
hPlot = axes(hViewPanel);

freq=11;
for v = 1:freq:vidReader.NumFrames
    frameRGB = read(vidReader, v);
    frameGray = rgb2gray(frameRGB); % in some versions, using im2grpy(frameRGB)

    flow = estimateFlow(opticFlow, frameGray);

    imshow(frameRGB)
    hold on
    plot(flow, 'DecimationFactor', [5 5], 'ScaleFactor', 10, 'Parent', hPlot);
    hold off
    pause(10^-3)
end
```





```
% If we treat every 31st frame as a reference frame
```

```
% read video file
vidReader = VideoReader('./IMG_5905.MOV','CurrentTime',1);
% init opticFlow object
opticFlow = opticalFlowLK('NoiseThreshold',0.009);

h = figure;
movegui(h);
```

```

hViewPanel = uipanel(h,'Position',[0 0 1 1],'Title','Plot of Optical Flow Vectors');
hPlot = axes(hViewPanel);

freq=31;
for v = 1:freq:vidReader.NumFrames
    frameRGB = read(vidReader, v);
    frameGray = rgb2gray(frameRGB); % in some versions, using im2grpy(frameRGB)

    flow = estimateFlow(opticFlow,frameGray);

    imshow(frameRGB)
    hold on
    plot(flow,'DecimationFactor',[5 5],'ScaleFactor',10,'Parent',hPlot);
    hold off
    pause(10^-3)
end

```



Plot of Optical Flow Vectors



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