

```
% This program generates a deltaf over f by depicting the difference between
% the baseline pixel value and mean pixel value for a time window defined by the user for
% all pixels in the pictures. This program depends on imageproc_streampix
% to run.
```

```
%ab = input('Enter the number of seconds over which the movie was collected: ');
%c = input('Enter the number of frames you want between the two running averages');
%srate = length(yy)/ab; %Gives sampling rate in images per second
%xax = 0:1/srate:ab-1/srate; %defines the x axis
n = 3 %This is the number of frames the program averages.
numd5 = floor(number/n);
```

```
% timepointspercycle=floor(srate*stimeriod);
%numberofcycles=1
```

```
xsize=size(x);
```

```
i=1;
  for z = 1:n;
    framesbefore(:, :, i)=x(:, :, z);
    i = i+1;
  end
```

```
  beforeave = double(framesbefore);
%   beforeave =double(beforeave);
  sumbefore = sum(beforeave,3);
  sumbefore = sumbefore./n;
  beforeaverage = sumbefore;
```

```
for jj = (n+1):number-n; %For the total number of images minus n
  i=1;
  for z = jj:jj+(n-1); %Puts n frames in order
    framesafter(:, :, i)=x(:, :, z);
    i = i+1;
  end
```

```
  afterave = double(framesafter);
%   afterave =double(afterave);
  sumafter = sum(afterave,3);
  sumafter = sumafter./n;
  afteraverage = sumafter;
```

```
  divfactor = 6000; %Was 6000 3-24-09
  delta = afteraverage-beforeaverage;
  overf = divfactor*(delta./beforeaverage);
  overf = uint8(overf);
  ir = jj;
  ir = num2str(ir);
  if jj < 10;
    ir = ['00' ir];
  elseif 9 < jj && jj < 100;
    ir = ['0' ir];
  end
  frame = num2str(ir);
  titler = ['movie',filename,frame, '.tif'];
  imwrite(overf,titler,'tif','Compression','none');
end
```