%% Line-Angle Calculation from Visual Inspection

% Sam Artho-Bentz

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%% Clean up from previous runs

clc

clear all

close all

%% Load the file

filename = 'IMG\_7861.JPG';

imshow(filename)

%% Wait for user to draw a line which matches the angle of the negative line

h1=imline; %negative line

position1 = wait(h1);

angle1 = tan((position1(1,2)-position1(2,2))/(position1(1,1)-position1(2,1)));

close

imshow(filename)

%% Wait for user to draw a line which matches the angle of the neutral line

h2=imline; %zero line

position2 = wait(h2);

angle2 = tan((position2(1,2)-position2(2,2))/(position2(1,1)-position2(2,1)));

close

imshow(filename)

%% Wait for user to draw a line which matches the angle of the positive line

h3=imline; %positive line

position3 = wait(h3);

angle3 = tan((position3(1,2)-position3(2,2))/(position3(1,1)-position3(2,1)));

close

%% Output results

disp('corrected negative line is')

disp(angle1-angle2)

disp('corrected positive line is')

disp(angle3-angle2)