## Contents

## Flight line 1

Load the CSV file

```matlab
data = readmatrix('segmentedrightsidexyz.csv');

% Extract x, y, and z values
x = data(:, 1);
y = data(:, 2);
z = data(:, 3);

% Calculate Relative Accuracy
% Assuming relative accuracy is the standard deviation of z-values
relative_accuracy = std(z) * 100; % Convert to centimeters

% Calculate Sigma Z (standard deviation of z-values)
%sigma_z = std(z) * 100; % Convert to centimeters

% Display Results
disp(['Relative Accuracy for flight line 1 (Standard Deviation of Z-values): ', num2str(relative_accuracy), ' cm']);
%disp(['Sigma Z (Standard Deviation of Z-values): ', num2str(sigma_z), ' cm']);
```

```
Relative Accuracy for flight line 1 (Standard Deviation of Z-values): 3.7683 cm
```

## Flight line 2

Load the CSV file

```matlab
data = readmatrix('smallraside.csv');

% Extract x, y, and z values
x = data(:, 1);
y = data(:, 2);
z = data(:, 3);

% Calculate Relative Accuracy
% Assuming relative accuracy is the standard deviation of z-values
relative_accuracy = (std(z)/12) * 100;; % Convert to centimeters

% Calculate Sigma Z (standard deviation of z-values)
%sigma_z = (std(z)/12) * 100; % Convert to centimeters

% Display Results
disp(['Relative Accuracy for flight line 2(Standard Deviation of Z-values): ', num2str(relative_accuracy), ' cm']);
%disp(['Sigma Z (Standard Deviation of Z-values): ', num2str(sigma_z), ' cm']);
```

```
Relative Accuracy for flight line 2(Standard Deviation of Z-values): 8.0516 cm
```

## Over-lap regions

Load the CSV files for two adjacent swaths

```matlab
data1 = readmatrix('swath1.csv');
data2 = readmatrix('swath2.csv');

% Extract z-values from both swaths
z1 = data1(:, 3);
z2 = data2(:, 3);

% Determine the size of the smaller dataset
min_size = min(length(z1), length(z2));

% Trim the datasets to match the size of the smaller dataset
z1_trimmed = z1(1:min_size);
z2_trimmed = z2(1:min_size);

% Calculate the elevation differences between corresponding points in the overlap zone
elevation_differences = z2_trimmed - z1_trimmed;

% Calculate the standard deviation of elevation differences
overlap_relative_accuracy = std(elevation_differences) * 100; % Convert to centimeters

% Display the result
disp(['Relative Accuracy in Overlap Zones: ', num2str(overlap_relative_accuracy), ' cm']);
```

```
Relative Accuracy in Overlap Zones: 19.1502 cm
```