Exploration of time ordering of events in MDT – Simulation

## Simulation of Tubes 2 degree
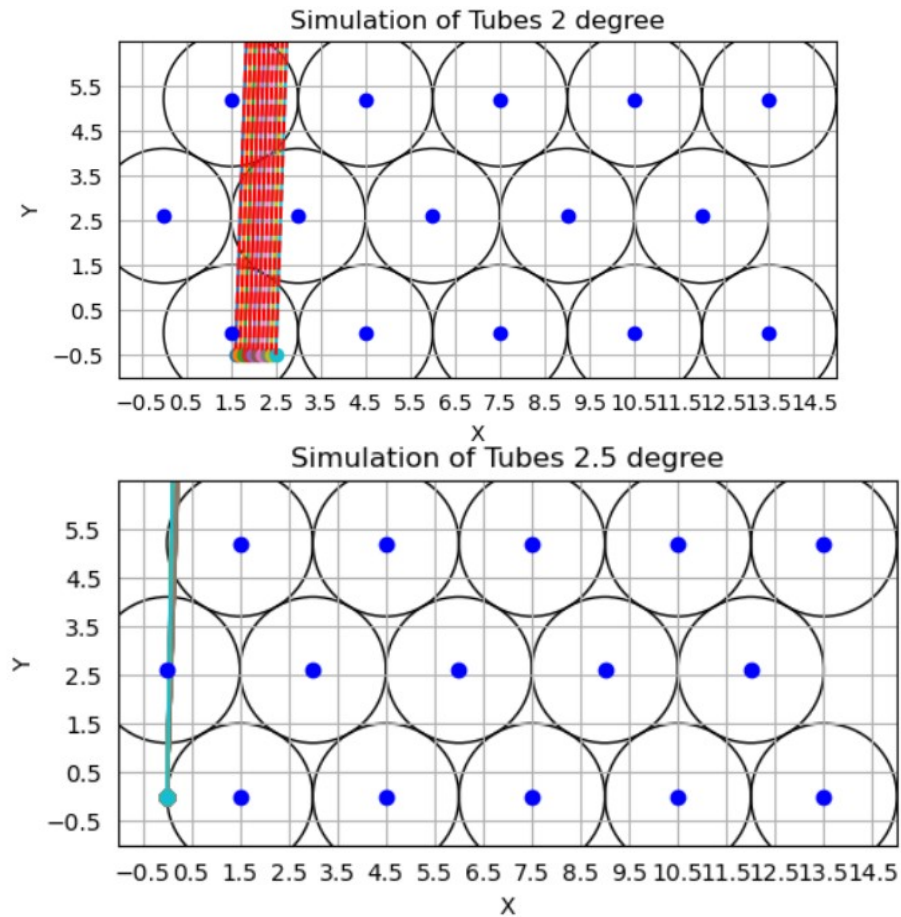
- Simulation with variation of Position:

  Values betwenn 1.6 cm to 2.5 cm, angle is fixed

- Calculation of the minimal distances to the centres of the tubes

Simulation of Tubes 2.5 degree

- Simulation with variation of the angles

  => Smilation of the resolution

  1 degree variation with steps of 0.01 degree

- Position is fixed

- Calculation of the minimal distances to the centres of the tubes

Differences of the distance Values – Simulation of Position Variation

2D Plot Difference of Simulation
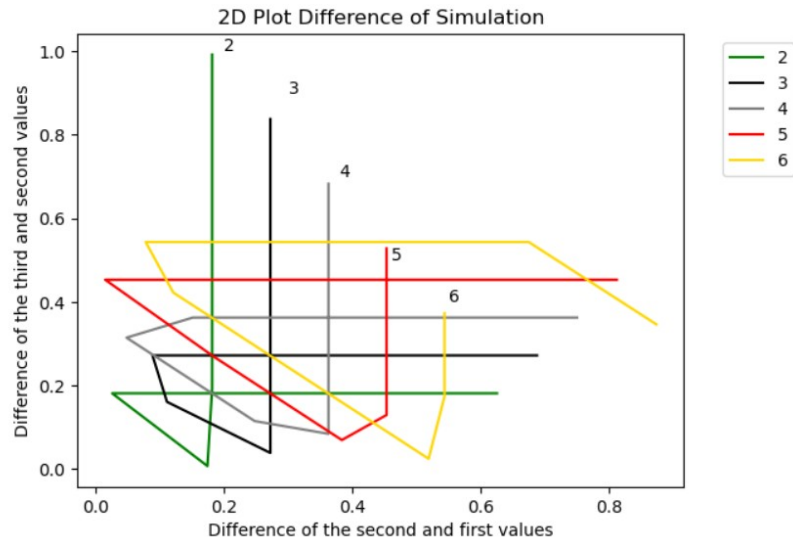
- Plots with the difference of the first and second distance values on the x-axis

- Difference of the second and third distance values on the y-axis

- Values are between: 0.0 cm to 1.0 cm

- Curve changes with higher angles

Exploration of time ordering of events in MDT
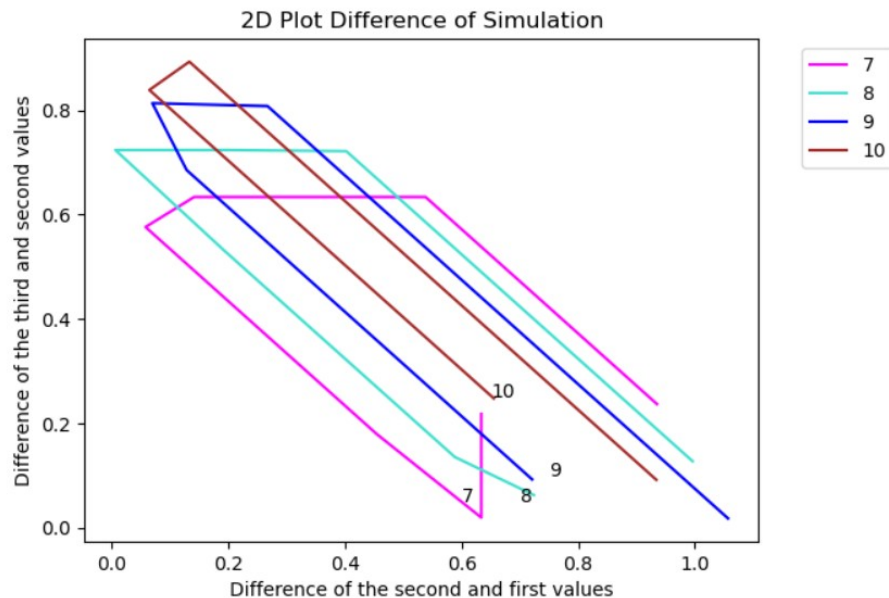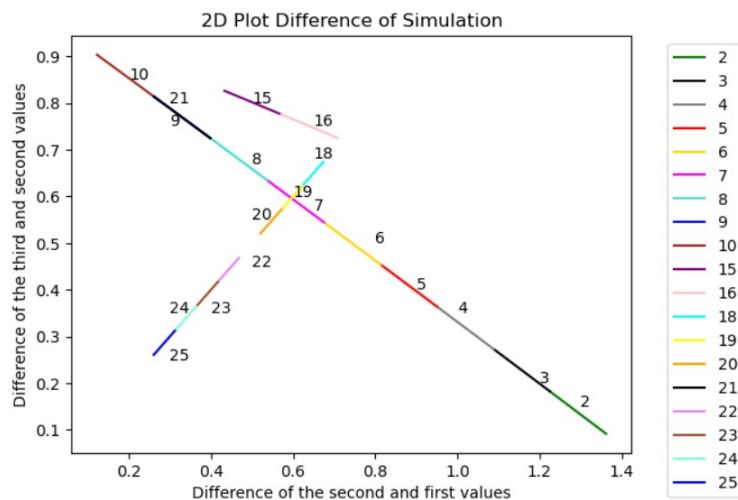

2D Plot Difference of Simulation
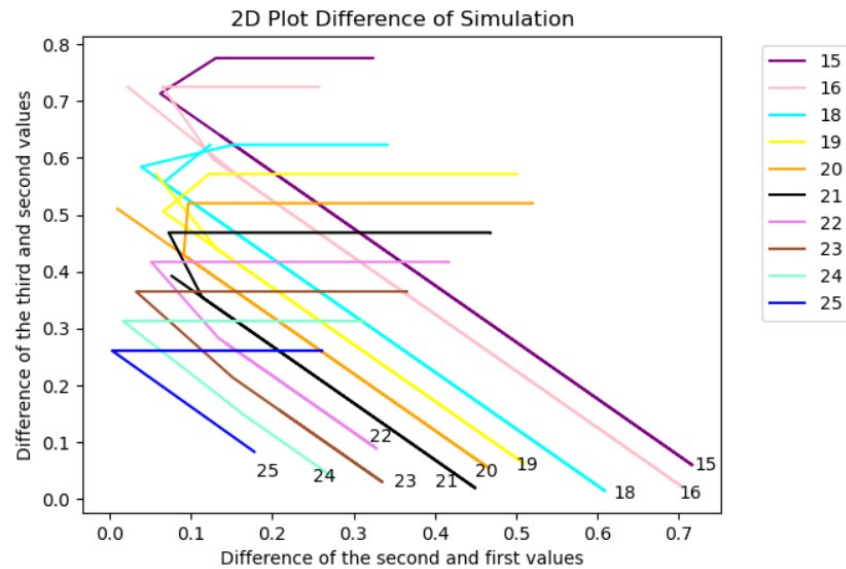
- Below: 2D Plot of the differences with a simulation of fixed position and variation of the angles
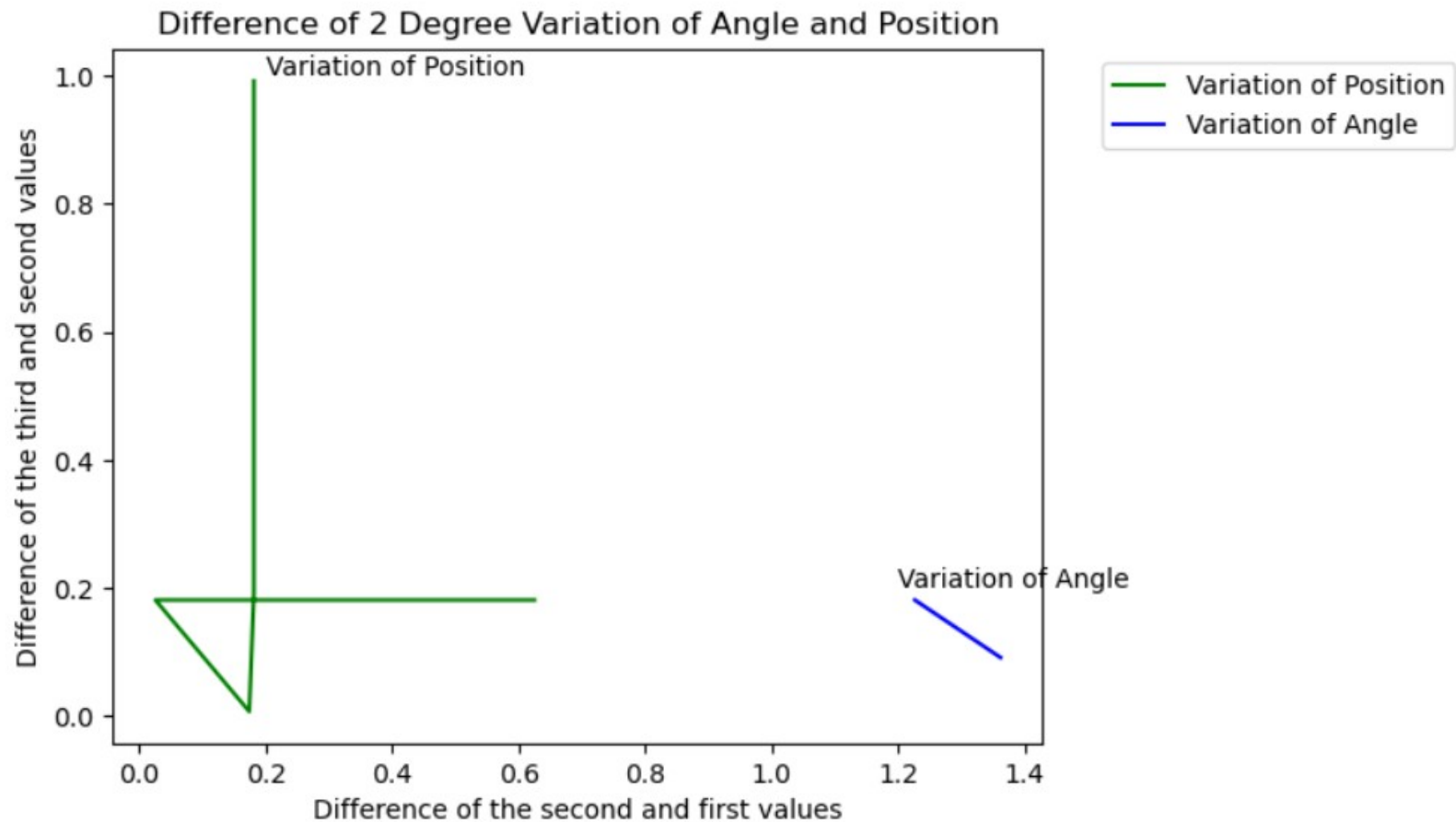
  => we see straight lines

  => different shape than variation of position with fixed angles

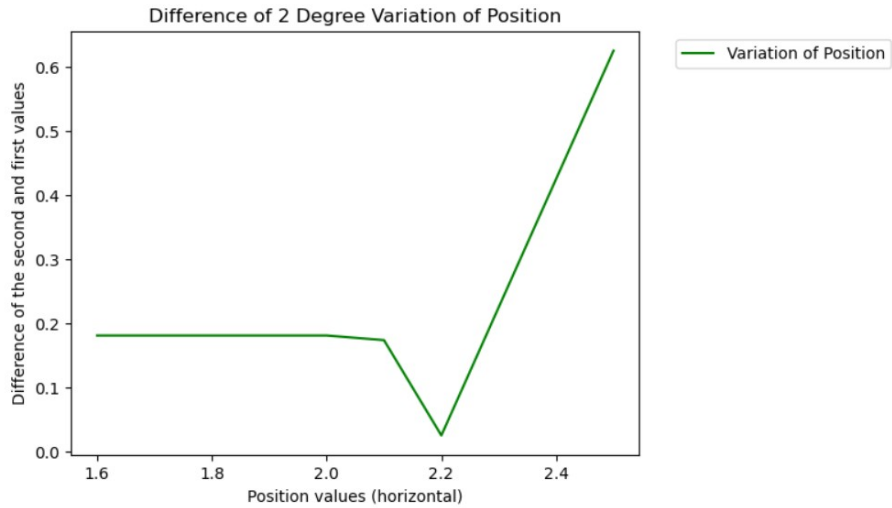- Below: values between: 0.0 cm to 0.9 cm on the y axis
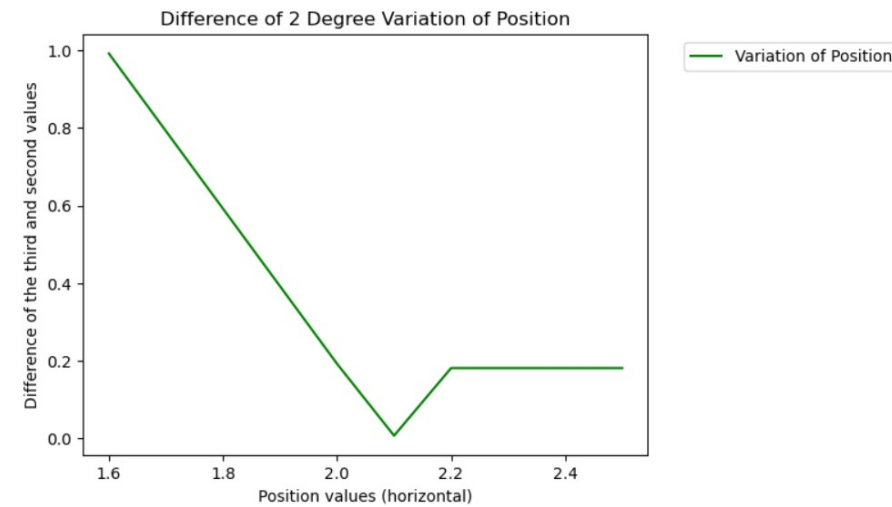
  0.0 cm to 1.4 cm on the x axis

2D Plot Difference of Simulation

2 Degree Variation of Position and Angle - closer Analysis

Difference of 2 Degree Variation of Angle and Position

Variation of Position- Differences plotted against Position Values
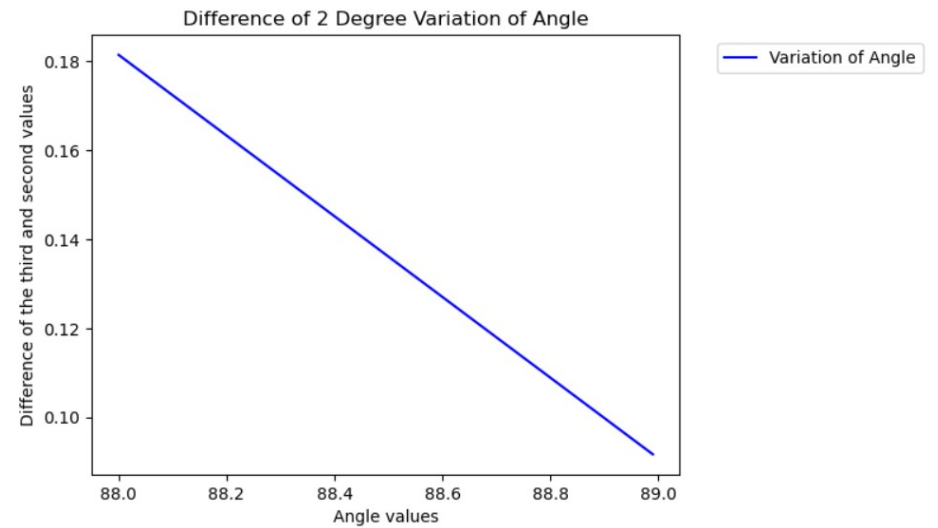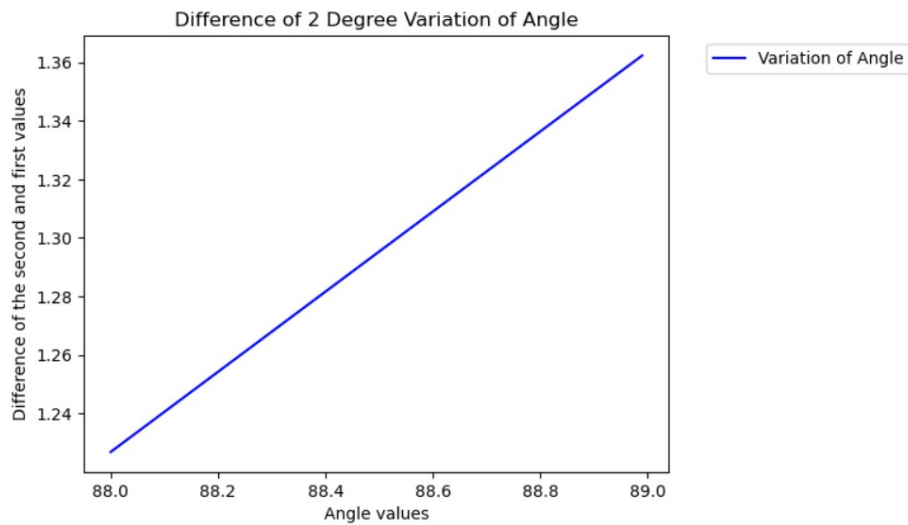

Difference of 2 Degree Variation of Position

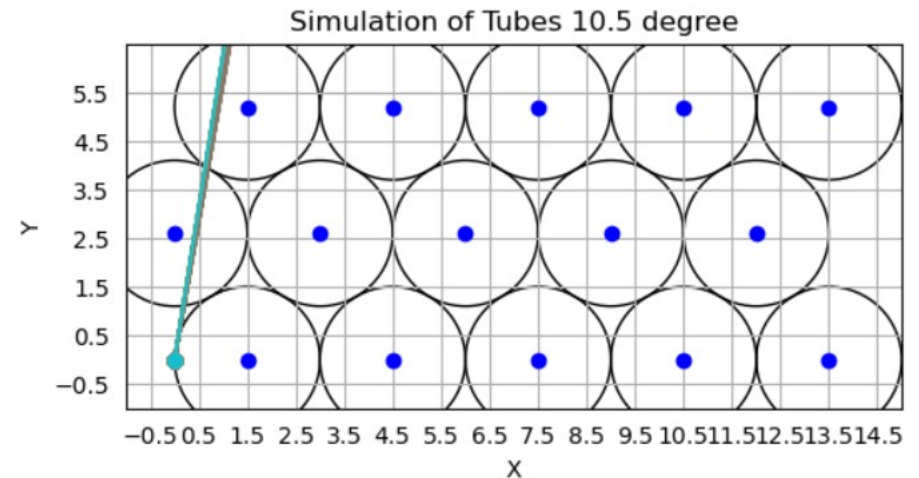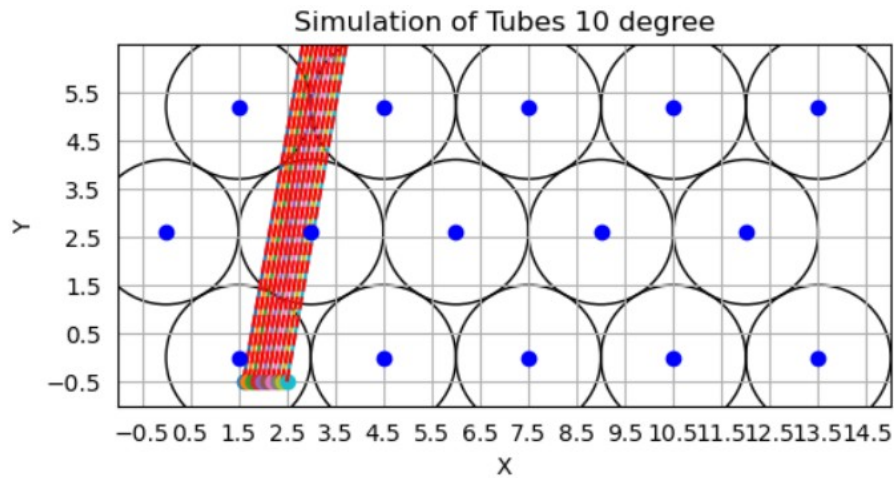- Difference of second and first distance value: first constant value, then decreases, 2.2 cm to 2.5 cm increases

- Difference of second and third: first decreases, then increases, constant betwenn 2.2 cm and 2.5 cm
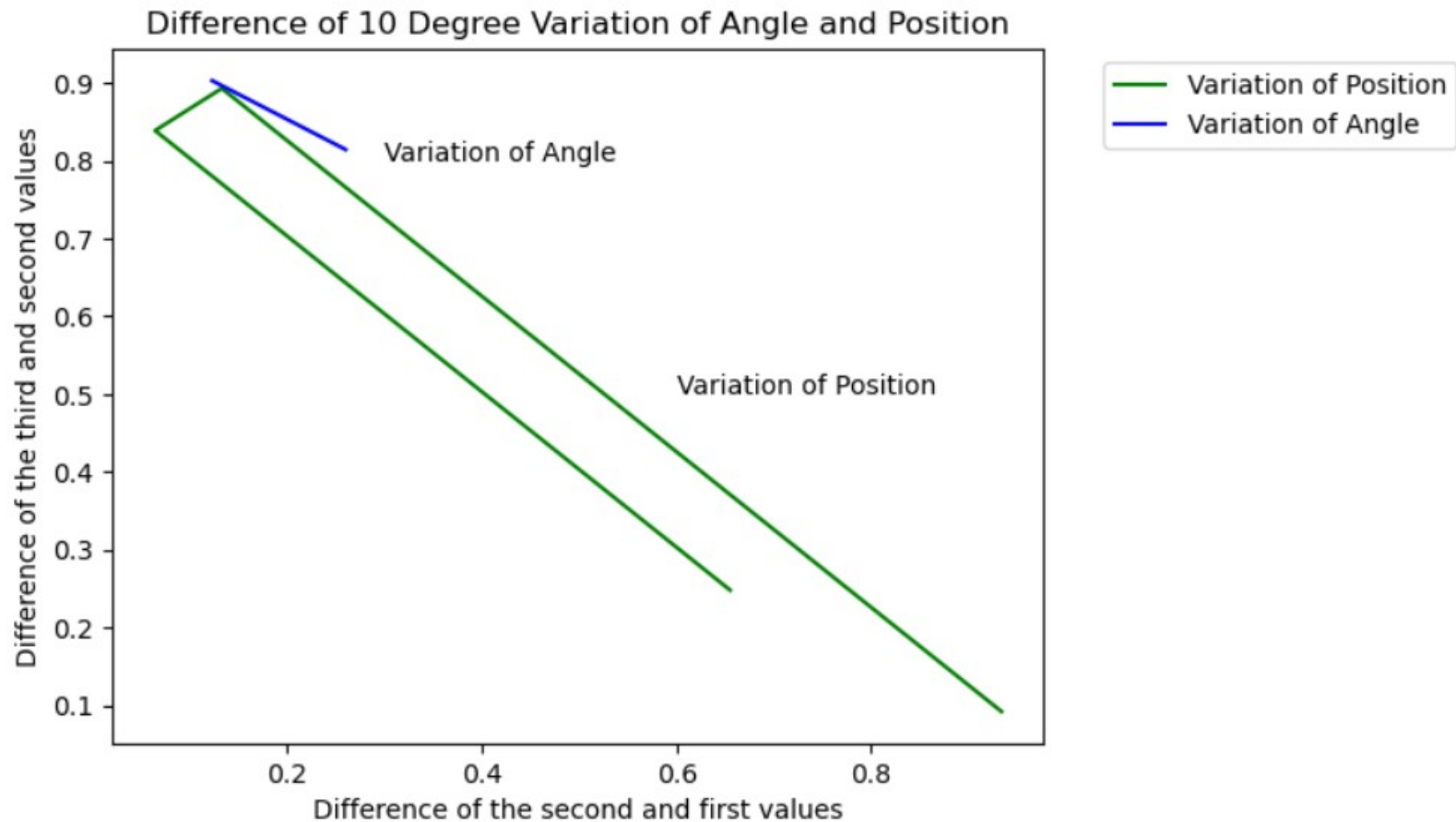

Difference of 2 Degree Variation of Position

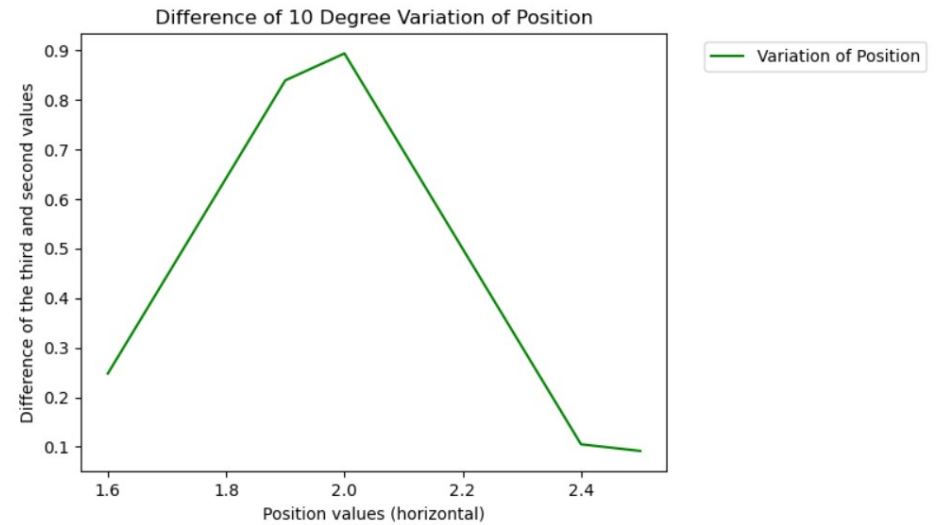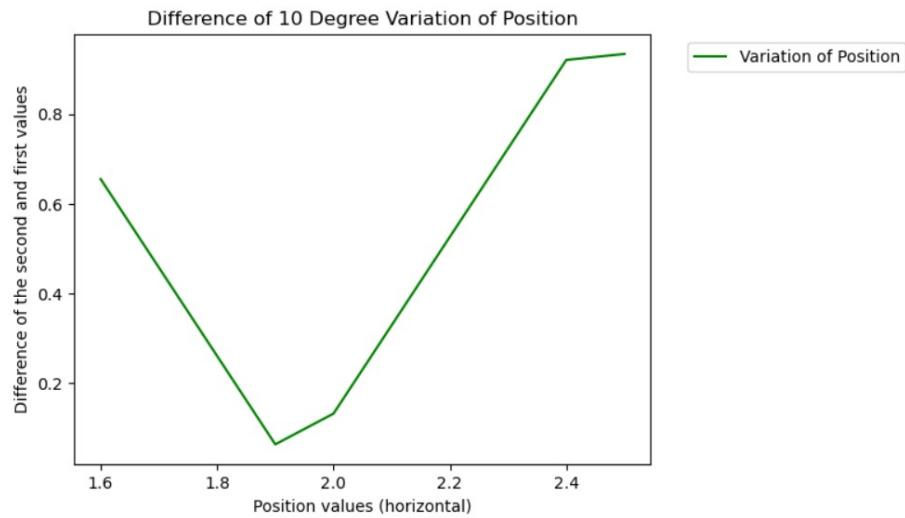# Variation of Angles- Differences plotted against Angle Values

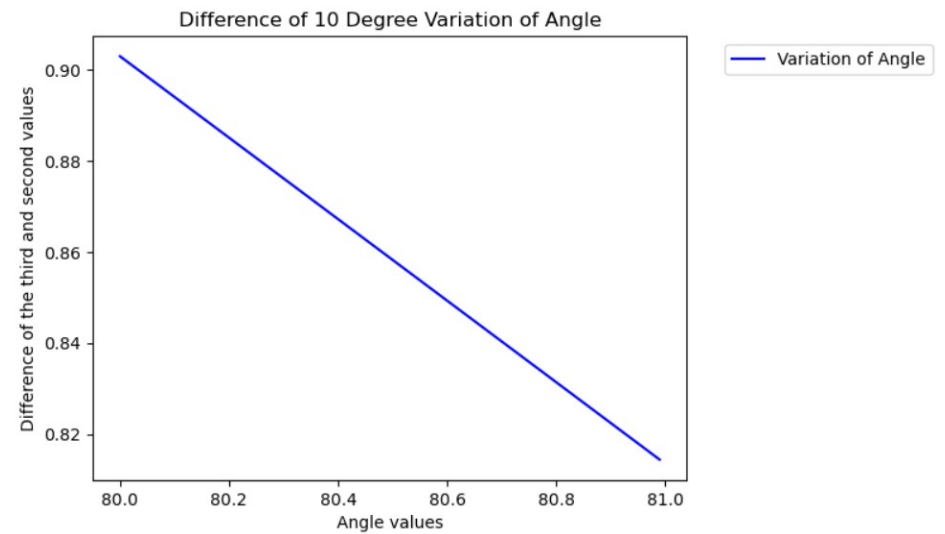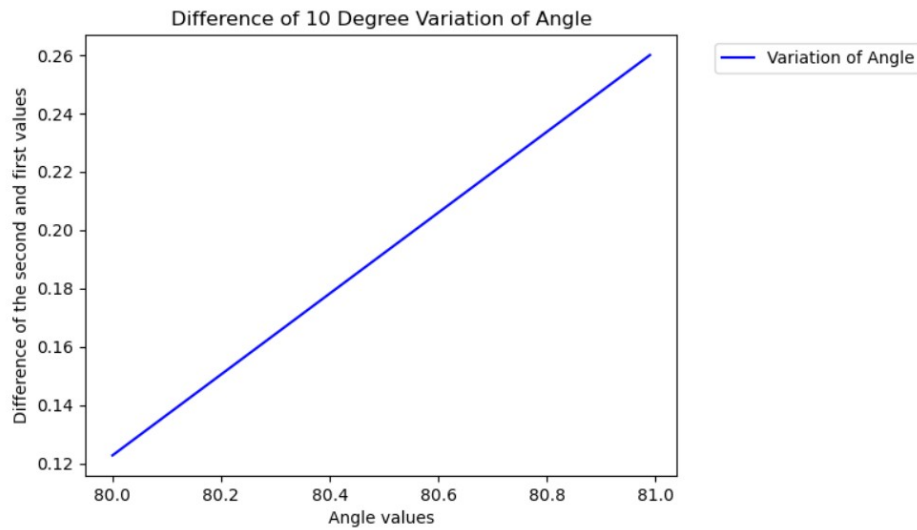# Exploration of time ordering of events in MDT

10 Degree Variation of Position and Angle - closer Analysis

Variation of Position- Differences plotted against Position Values

Variation of Angles- Differences plotted against Angle Values

Exploration of time ordering of events in MDT- Applying Real Data