جامعة الفرات الاوسط التقنية /المعهد التقني سماوة

قسم / تقنيات المساحة

المحاضرة الخامسة عشر

اسم المادة / المساحة-٢

المرحلة الدراسية / الثانية

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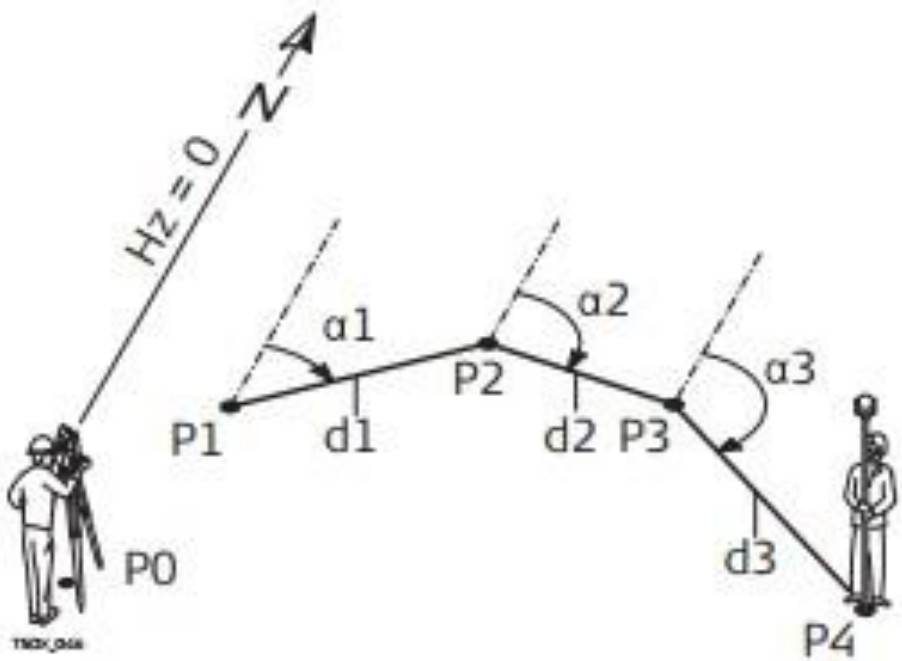
Tie Distance

- Tie Distance is an application used to compute slope distance, horizontal distance, height difference and azimuth of two target points which are either measured, selected from the memory, or entered using the keypad.
- Tie distance methods: The user can choose between two different methods:

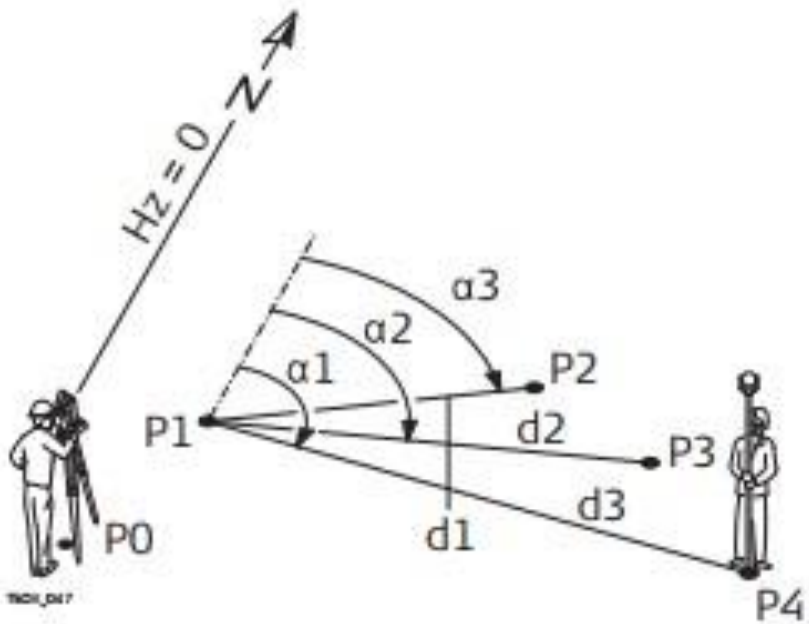
1. Polygonal: P1-P2, P2-P3, P3-P4.
2. Radial: P1-P2, P1-P3, P1-P4.

1. Polygonal method



P0	Instrument station
P1-P4	Target points
d1	Distance from P1-P2
d2	Distance from P2-P3
d3	Distance from P3-P4
α1	Azimuth from P1-P2
α2	Azimuth from P2-P3
α3	Azimuth from P3-P4

2. Radial method



P0	Instrument station
P1-P4	Target points
d1	Distance from P1-P2
d2	Distance from P1-P3
d3	Distance from P1-P4
α1	Azimuth from P1-P4
α2	Azimuth from P1-P3
α3	Azimuth from P1-P2

Tie Distance

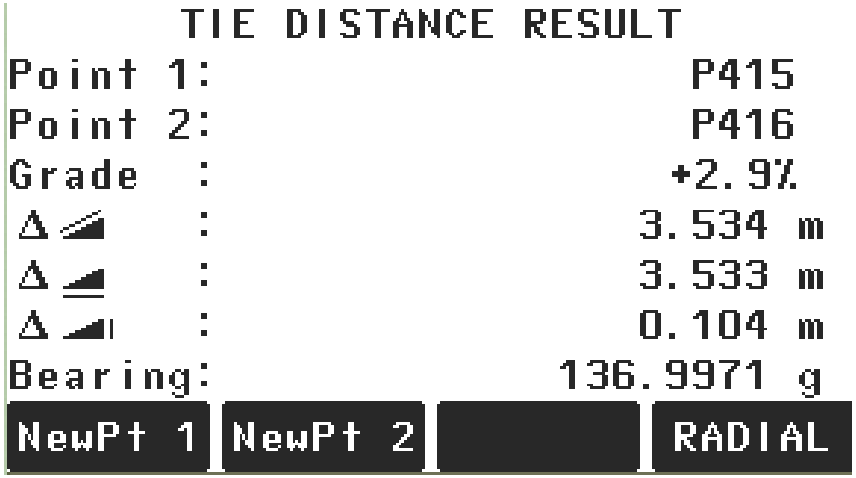
- 1. Select Prog from the MAIN MENU.
- 2. Select Tie Distance from the PROGRAMS menu.
- 3. Complete application pre-settings. Refer to "8 Applications - Getting Started".
- 4. Select Polygonal or Radial.

Tie Distance

- Tie distance measurements

After completing the measurements required, the TIE DISTANCE RESULT screen will appear.

- TIE DISTANCE RESULT – Polygonal method
- NewPt 1:To calculate an additional line. Application starts again at point 1.
- NewPt 2: To set point 2 as the starting point of a new line. A new point 2 must be measured.
- RADIAL: To switch to radial method.



Tie Distance

Field	Description
Grade	Grade [%] between point 1 and point 2.
Δ	Slope distance between point 1 and point 2.
Δ	Horizontal distance between point 1 and point 2.
Δ	Height difference between point 1 and point 2.
Bearing	Azimuth between point 1 and point 2.

Next step: Press ESC to exit the application.