GEOM20015
Sensing and Measurement

Leica TS10 Total Station

Assignment 2 supplementary material

12 August 2024

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Introduction

This is a supplementary material for Assignment 2. It is designed to help you find the total station Leica TS10 functions you will need to complete the assignment.

Electronic bubble

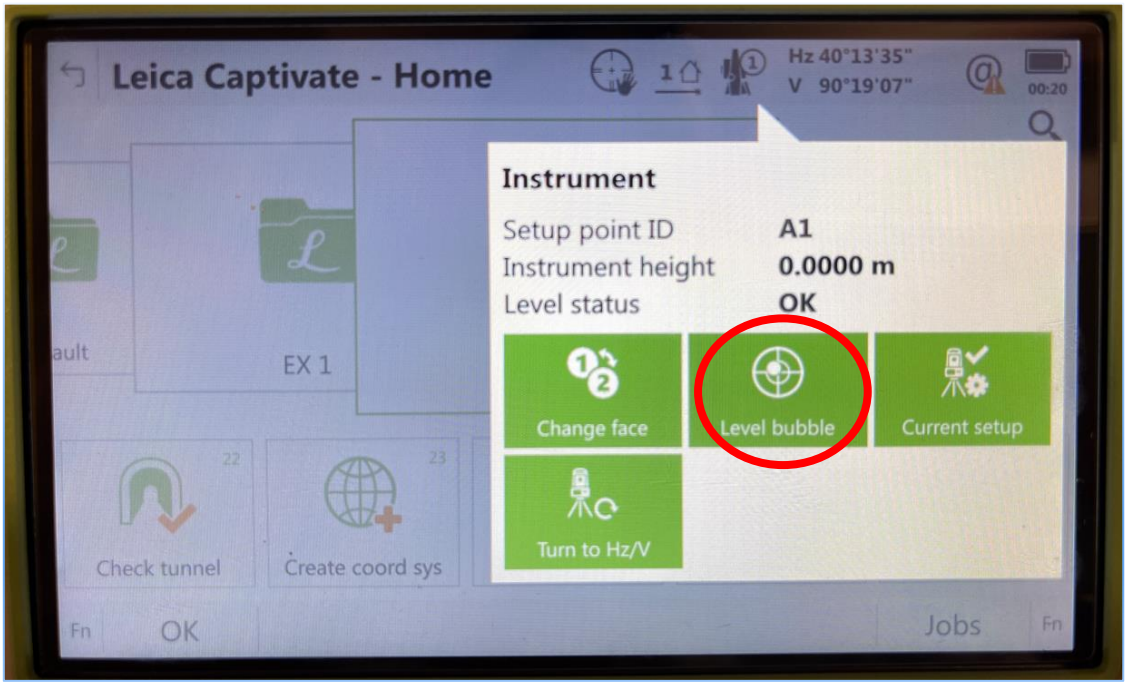

Figure 1. *Accessing the electronic bubble*

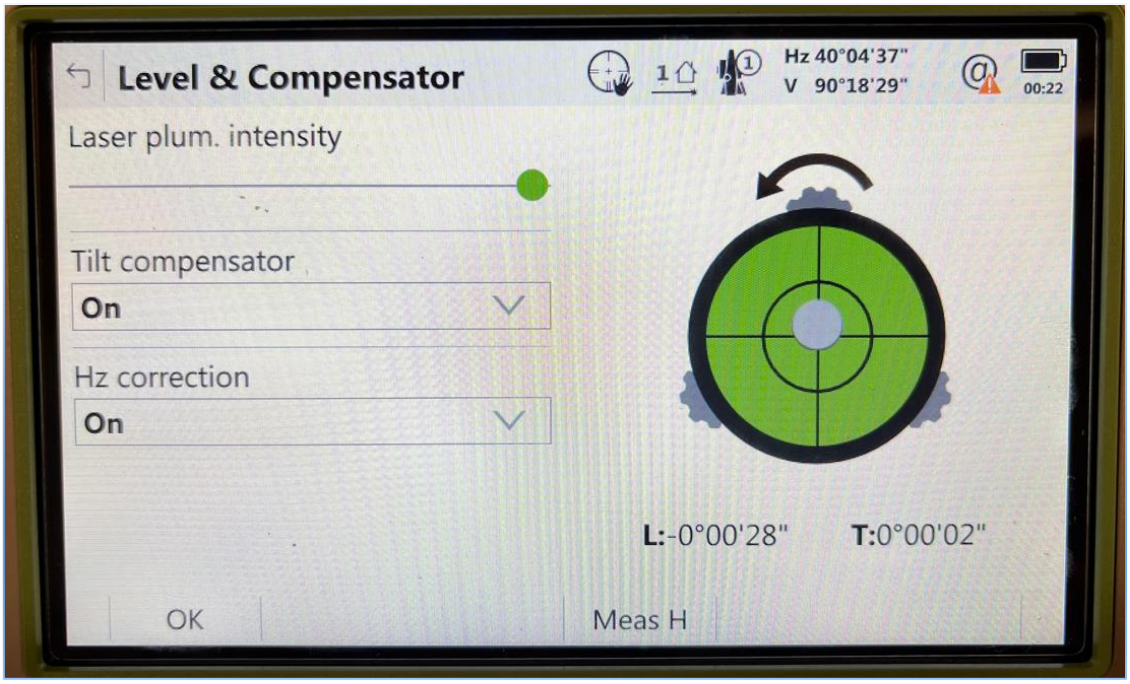

Figure 2. *Electronic bubble*

Job set up

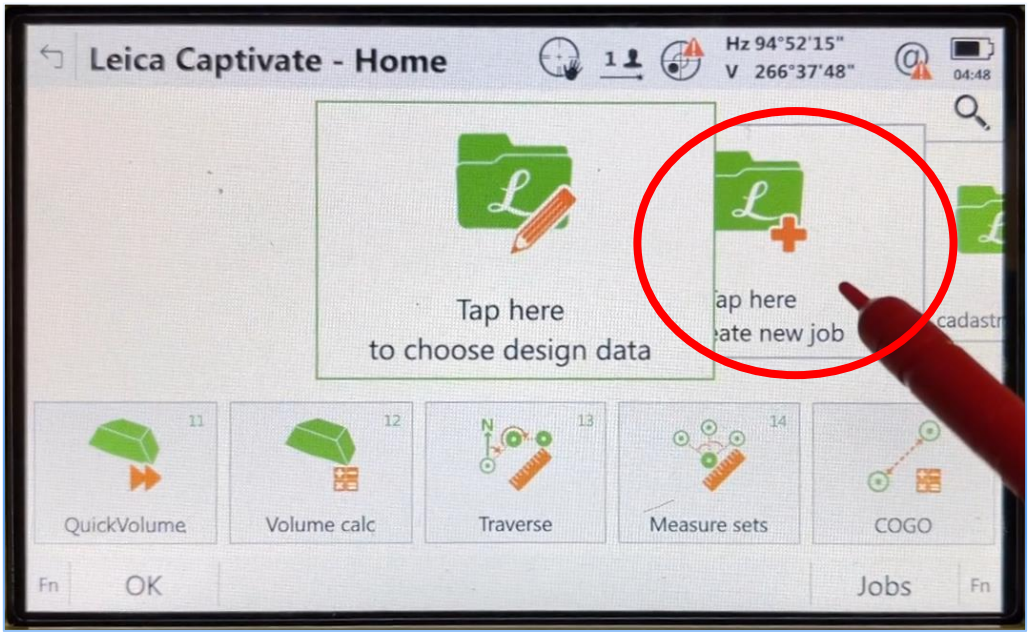

Figure 3. *Creating a new job from the Home menu*

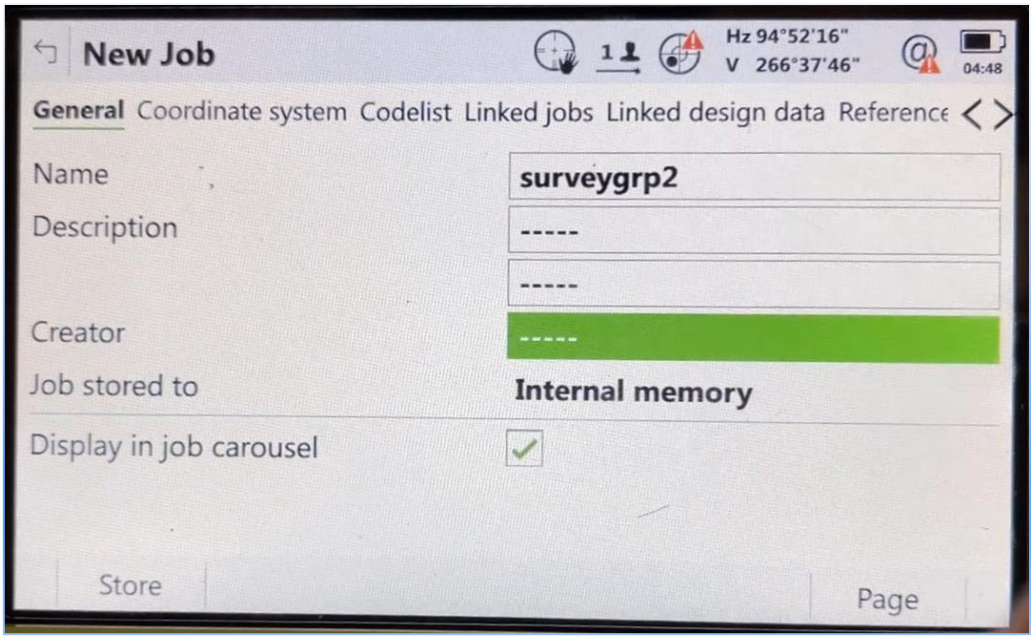

Figure 4. *Job description – enter fields as necessary*

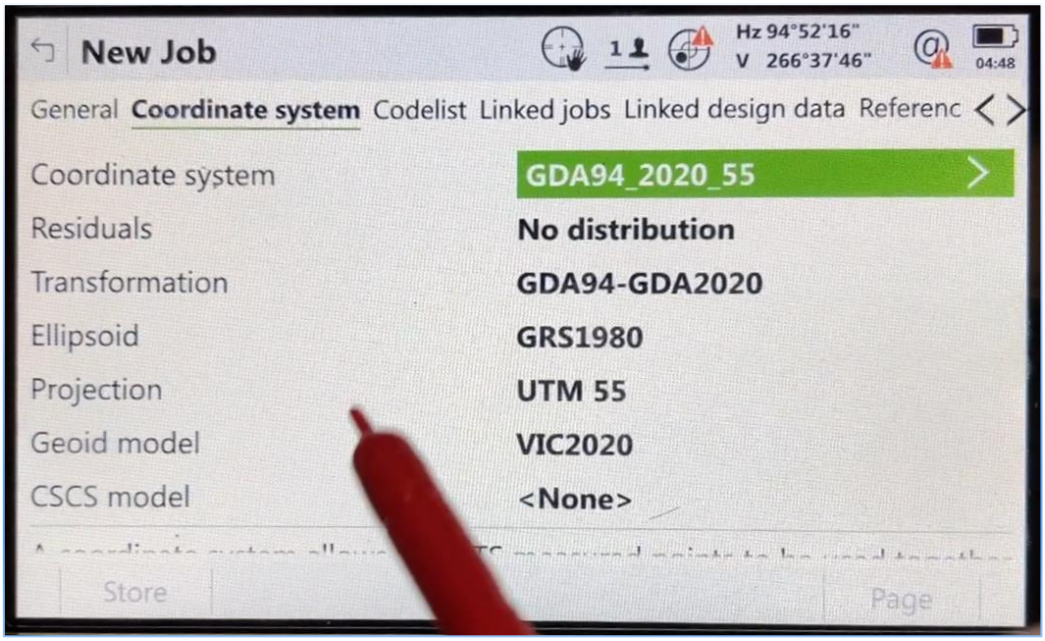

Figure 5. *Job coordinate system – select as shown*

Measurements settings

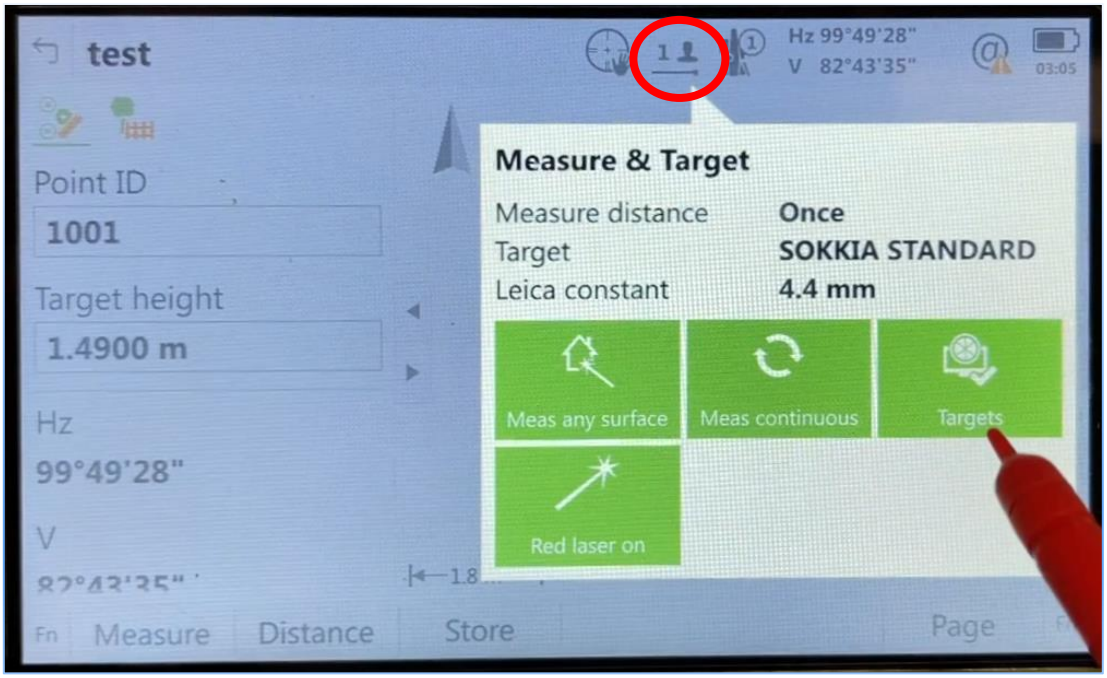

Figure 6. *"Measure & Target" settings are used to set the measurement type (prism or no prism), number of repetitions, and the target prism.*

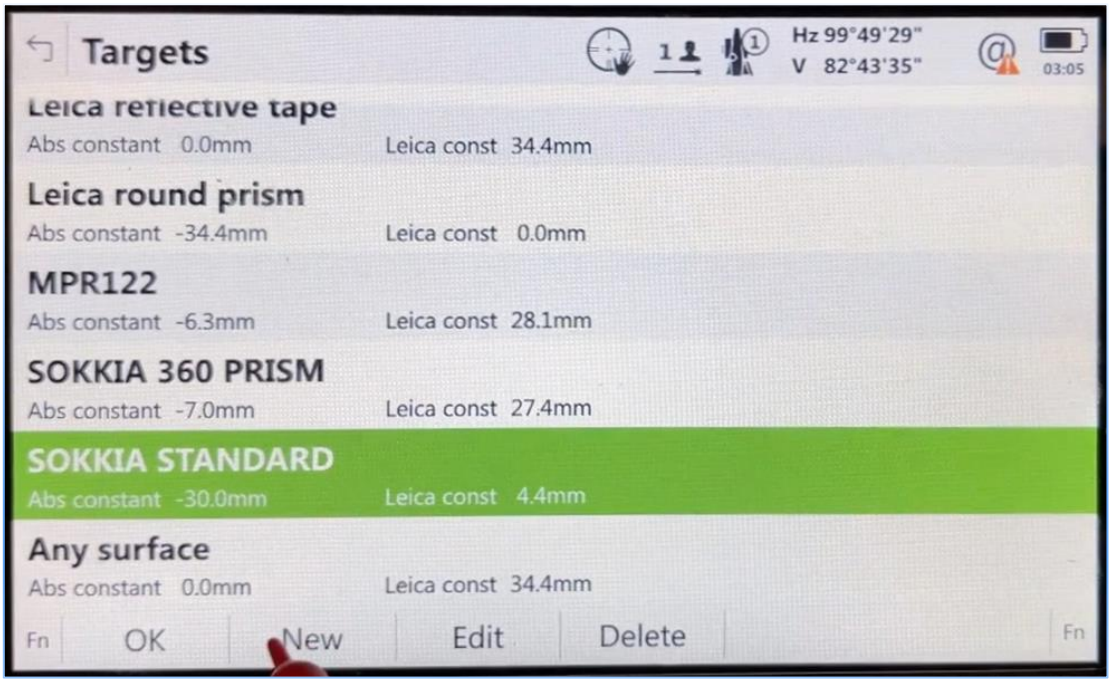

Figure 7. *Target selection – choose the prism you are using. In this example, the Sokkia standard prism (Figure 8) is selected.*

Figure 8. *Left – Sokkia Standard prism, right – Sokkia 360 prism.*

Setting the orientation

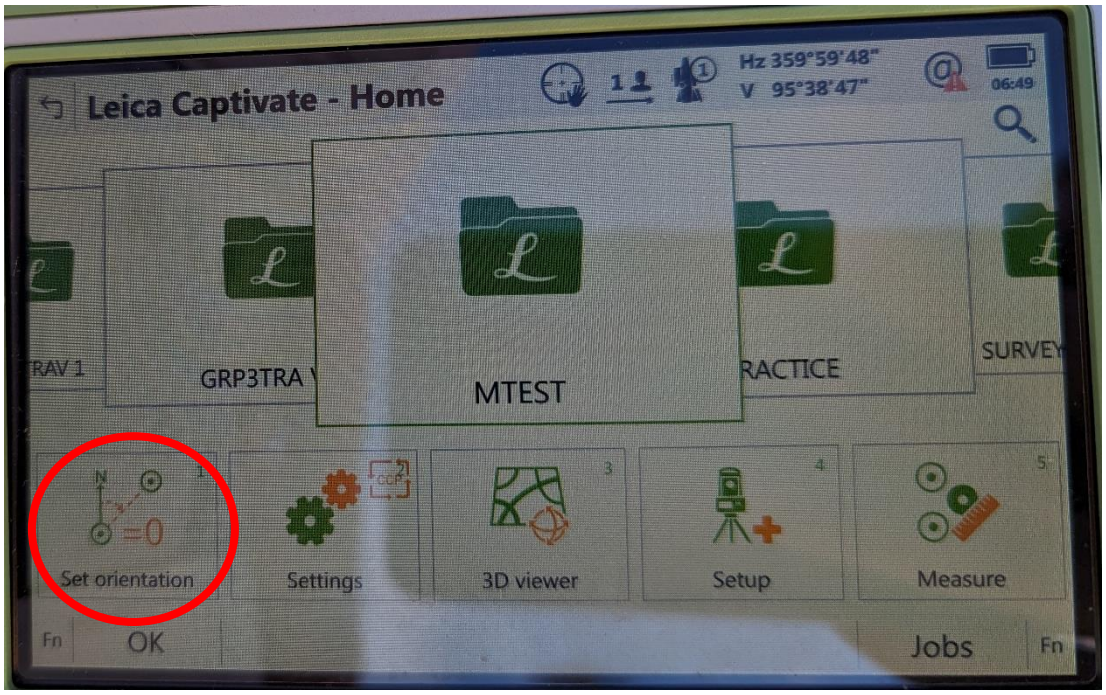

Figure 9. *Access from the Home menu.*

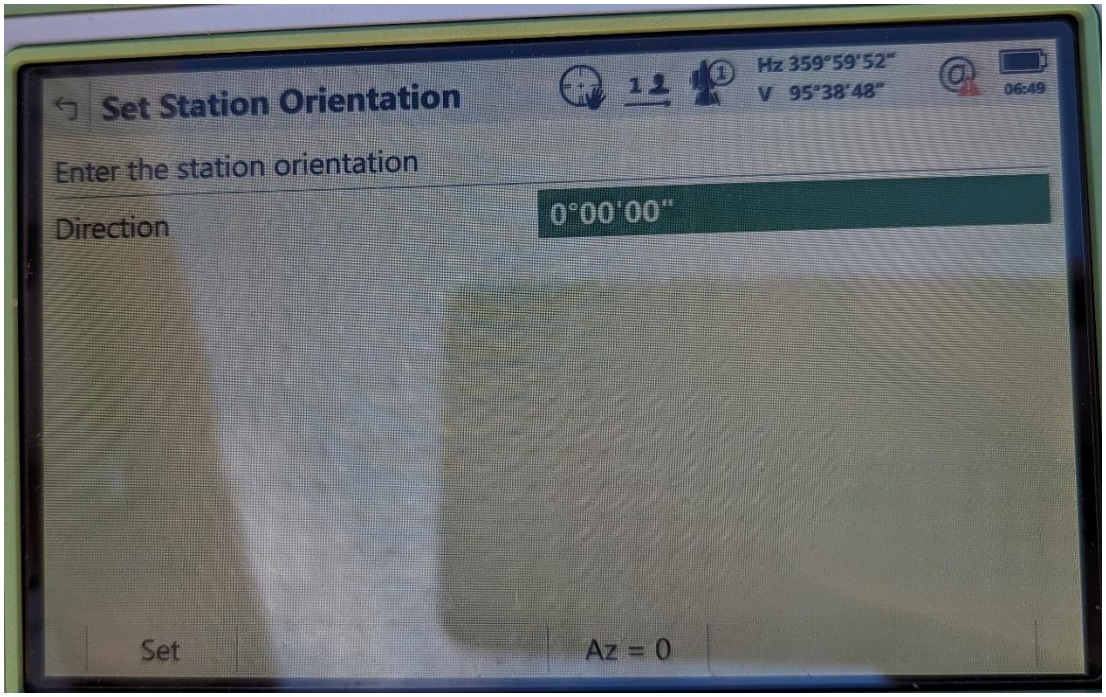

Figure 10. *Make sure the total station is in the Face Left position. Enter the direction that you want to set as 0°00'00". Aim at the centre of the prism for which you want to set this direction. Press set. This will set the horizontal direction reading to 0°00'00" in the direction of this prism.*

Measuring horizontal directions and distances

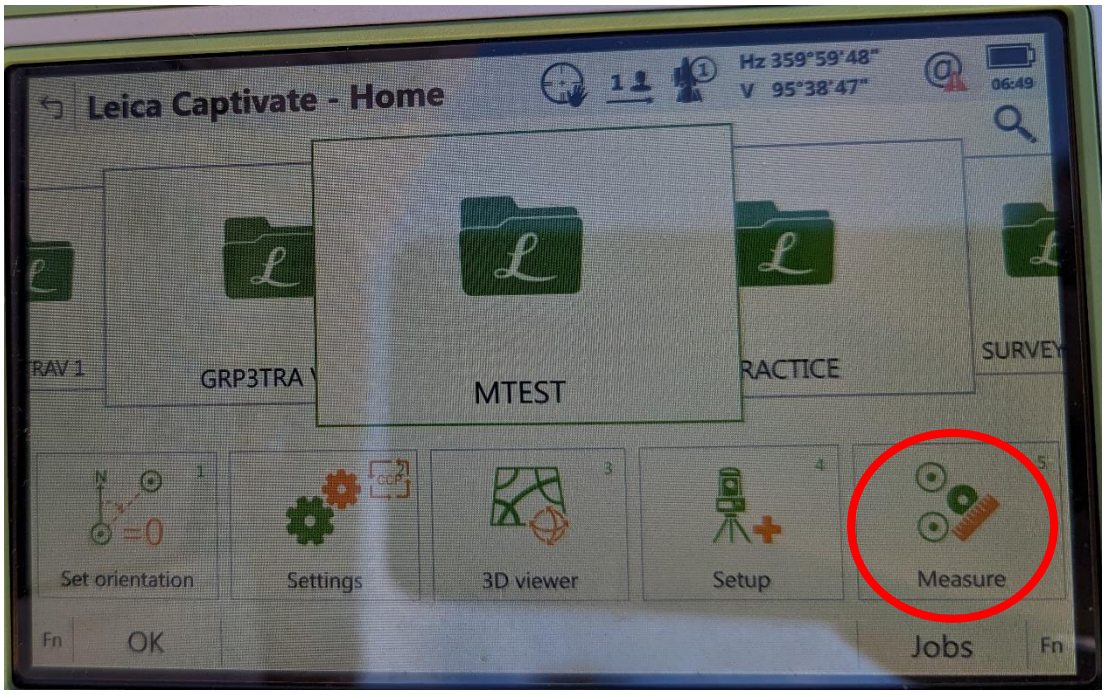

Figure 11. *Access from the Home menu.*

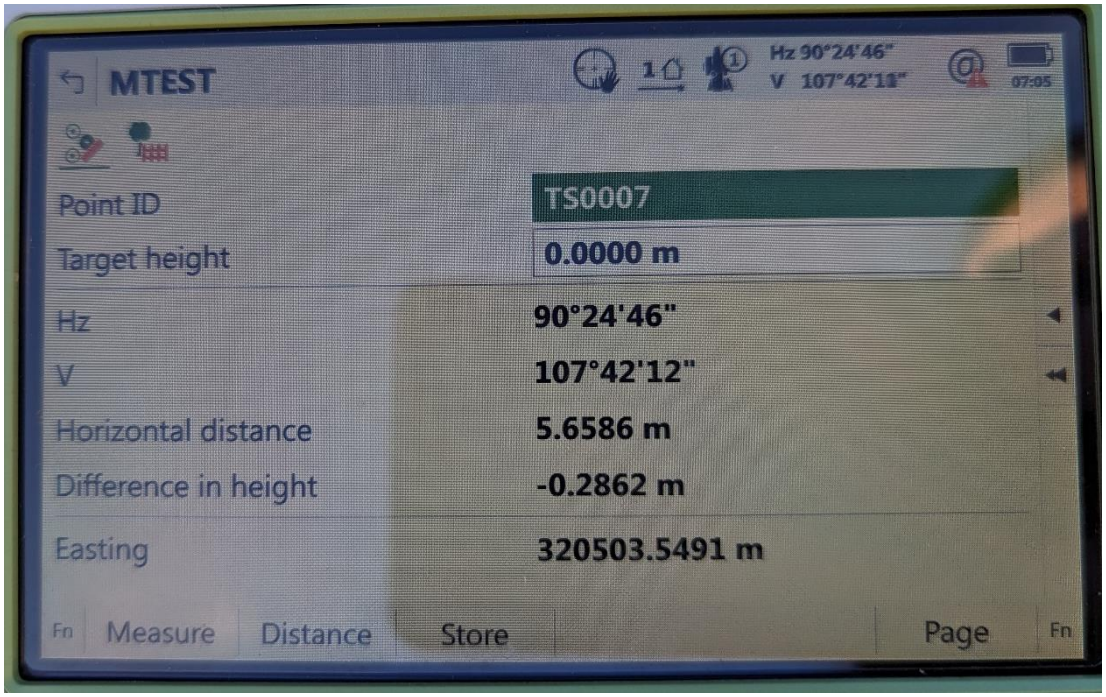

Figure 12. *For this assignment, we are interested only in horizontal directions (Hz) and Horizontal distances only. Everything else on this screen (point ID, target height, vertical angles, coordinates, etc.) is irrelevant for Assignment 2, but will be used in the next assignment. Aim at the centre of the prism. Press Distance, read Horizontal distance from the screen and write it down. Without pressing Measure, read the horizontal direction (Hz) from the screen and write it down. The horizontal direction reading may slightly fluctuate, especially in strong wind, as the reading is very sensitive – do not worry about this and just write down one reading.*