

Surveying Laboratory

Purpose: To familiarize students about the usage and working principle of different surveying instruments, Application of instruments to calculate various parameters such as horizontal angles, ground elevations, to plot the ground features in the maps with the help of plane table survey

S. No.	Experiment Name	Equipment Used
1	To plot a traverse of a given area with the help of compass and a chain	Metric Chain (30 m), Metallic Tape 30m, Arrow, Prismatic compass, Surveyor compass, Ranging Rod
2	To Establish Benchmark at given site by performing fly levelling	Auto Level, Tripod Stand, Telescopic metric staff 4 m
3	To work out difference of elevation between two points by reciprocal levelling	Dumpy level, tripod stand, levelling staff, Plumb bob., etc
4	To determine the position of station occupied by plane table using three-point problem	Plane table, Arrow, Telescopic Alidade, Spirit level, Trough compass, Plumb bob, Plumbing Fork, Wooden pegs, Ranging rods, etc
5	To locate the points at desired locations in the field by the method of intersection	Plane table, Arrow, Telescopic Alidade, Spirit level, Trough compass, Plumb bob, Plumbing Fork, Wooden pegs, Ranging rods, etc
6	Measure angle between two horizontal points with the help of theodolite by method of repetition	Transit Vernier Theodolite, Tripod Stand, Ranging Rod, Metallic Tape
7	To determine the constants of a given tacheometer	Tacheometer, Tripod Stand, Telescopic metric staff 4 m, Ranging Rod, Metallic Tape
8	To determine whether the levelling bubble and telescope line-of-sight are parallel, by peg test method	Dumpy level, tripod stand, levelling staff, Metallic Tape, Plumb bob., etc
9	Measuring height of the object with the help of Theodolite, when the base of the object is accessible	Tacheometer, Tripod Stand, Telescopic metric staff 4 m, Ranging Rod, Metallic Tape
10	Find out the horizontal distance and difference of elevation between two points by fixed hair of tacheometry	Tacheometer, Tripod Stand, Telescopic metric staff 4 m, Ranging Rod, Metallic Tape
11	To study the functions of various parts of a Total Station	Total Station, Prism, Staff, Steel Tape etc

TOTAL STATION



Waknaghat, Himachal Pradesh, India

Civil Engineering Department , JUIT-Waknaghat , Waknaghat,
Himachal Pradesh 173221, India

Lat N 31° 0' 57.1752"

Long E 77° 4' 9.786"

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TOTAL STATION



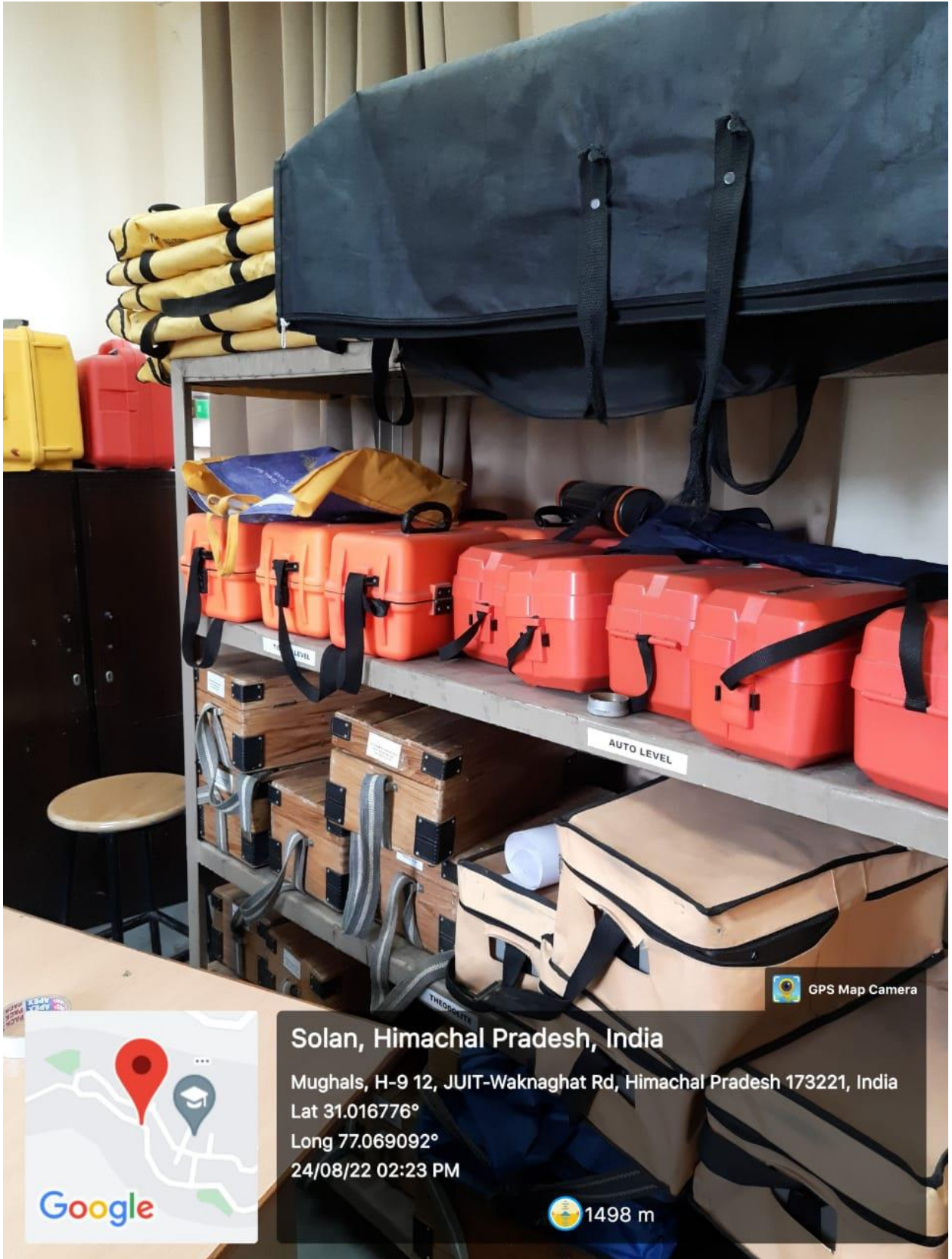
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Civil Engineering Department , JUIT-Wagnaghat , Wagnaghat,
Himachal Pradesh 173221, India

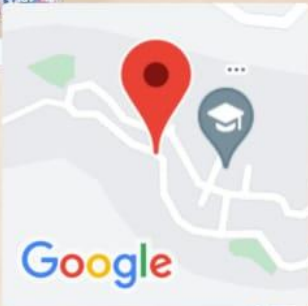
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Long E 77° 4' 9.786"

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GPS Map Camera



Solan, Himachal Pradesh, India

Mughals, H-9 12, JUIT-Waknaghat Rd, Himachal Pradesh 173221, India

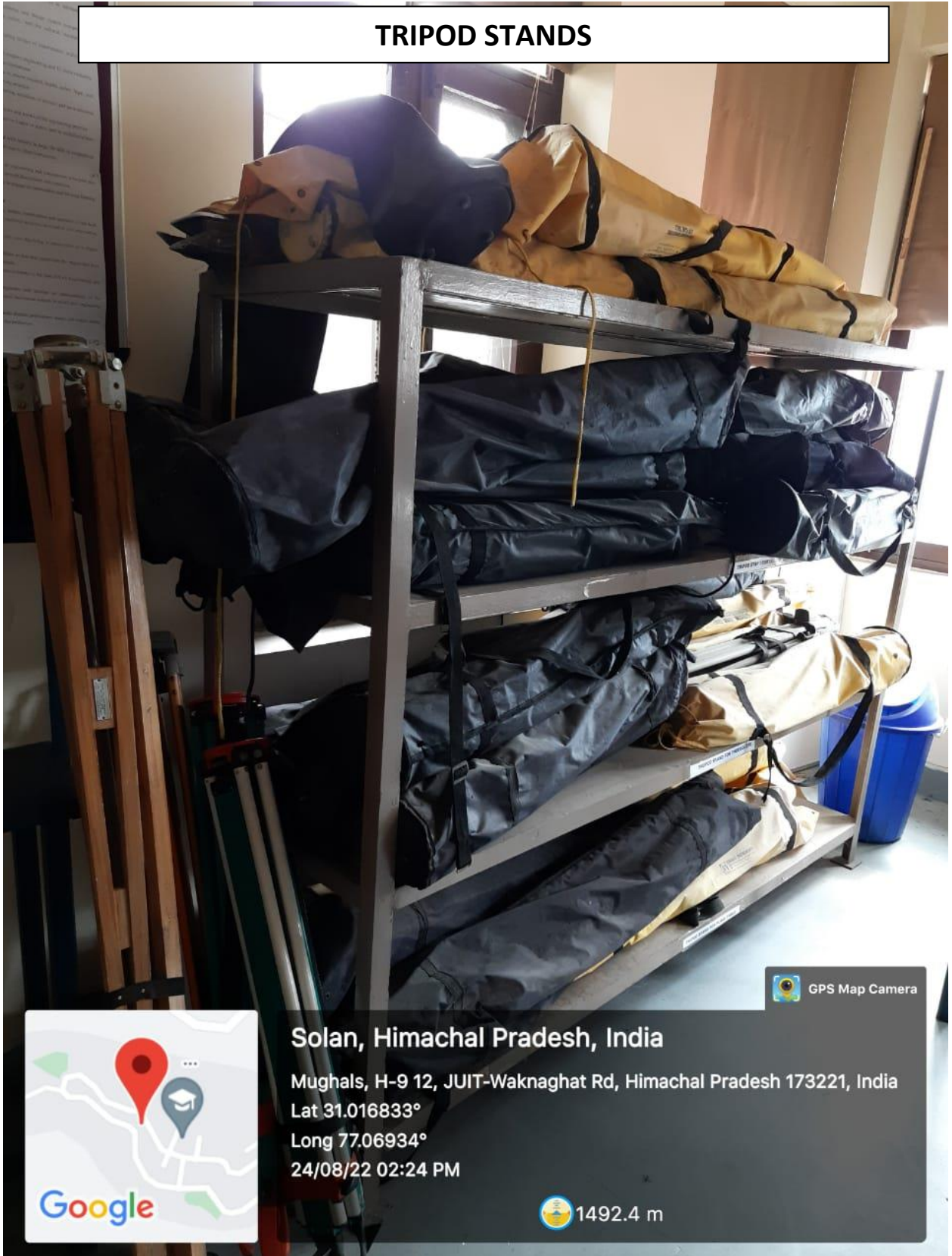
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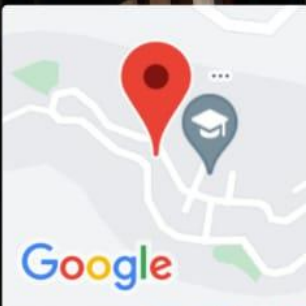
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1498 m

TRIPOD STANDS



GPS Map Camera



Solan, Himachal Pradesh, India

Mughals, H-9 12, JUIT-Waknaghat Rd, Himachal Pradesh 173221, India

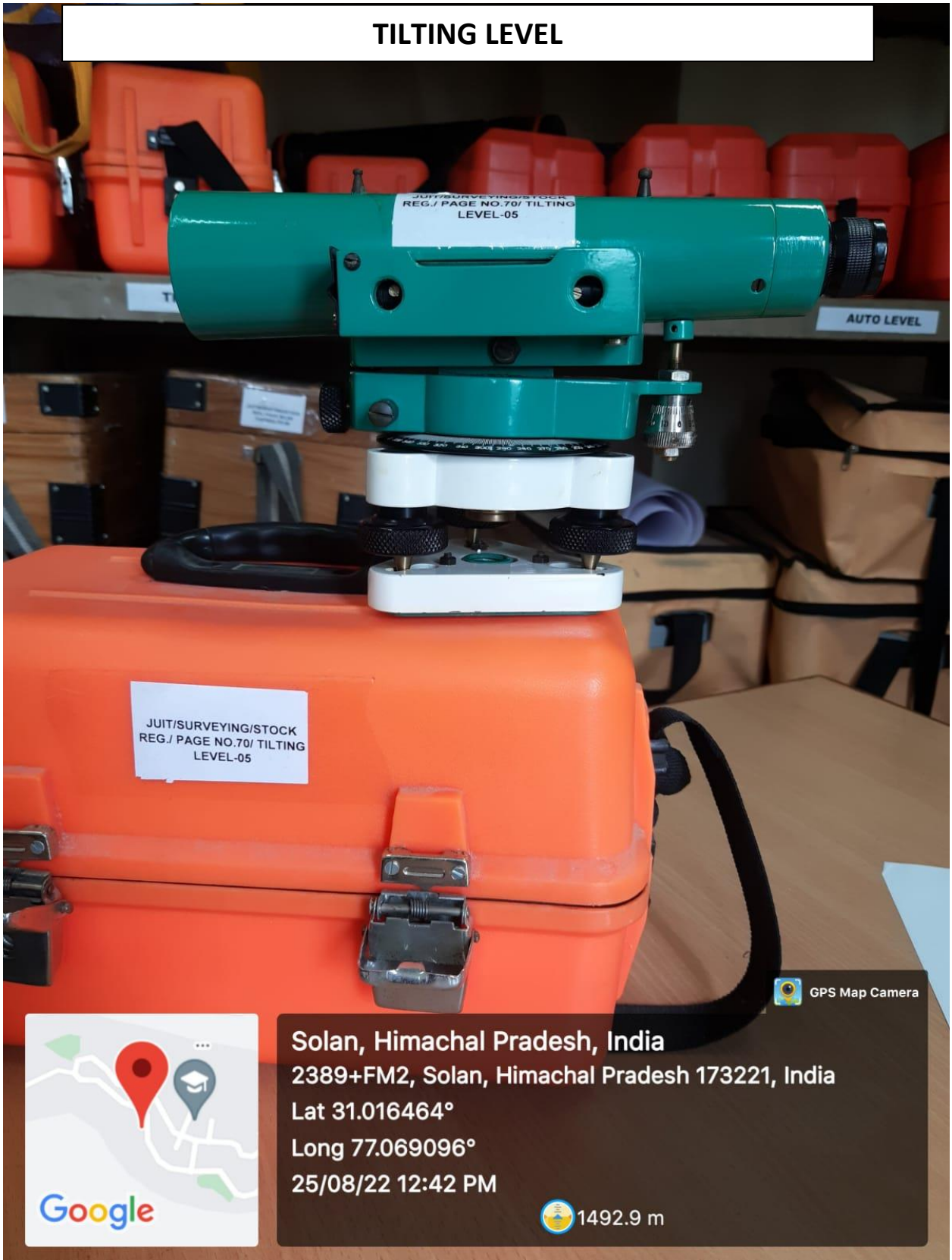
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1492.4 m

TILTING LEVEL

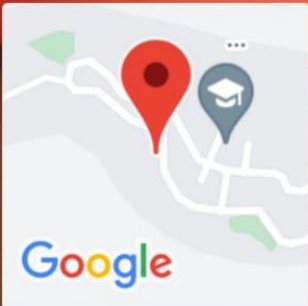


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LEVEL-05

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REG./ PAGE NO.70/ TILTING
LEVEL-05

AUTO LEVEL

GPS Map Camera



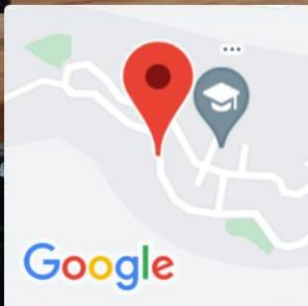
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1492.9 m


TELESCOPE ALIDADE



GPS Map Camera



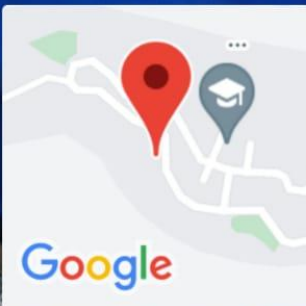
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 1492.9 m

DUMPY LEVEL



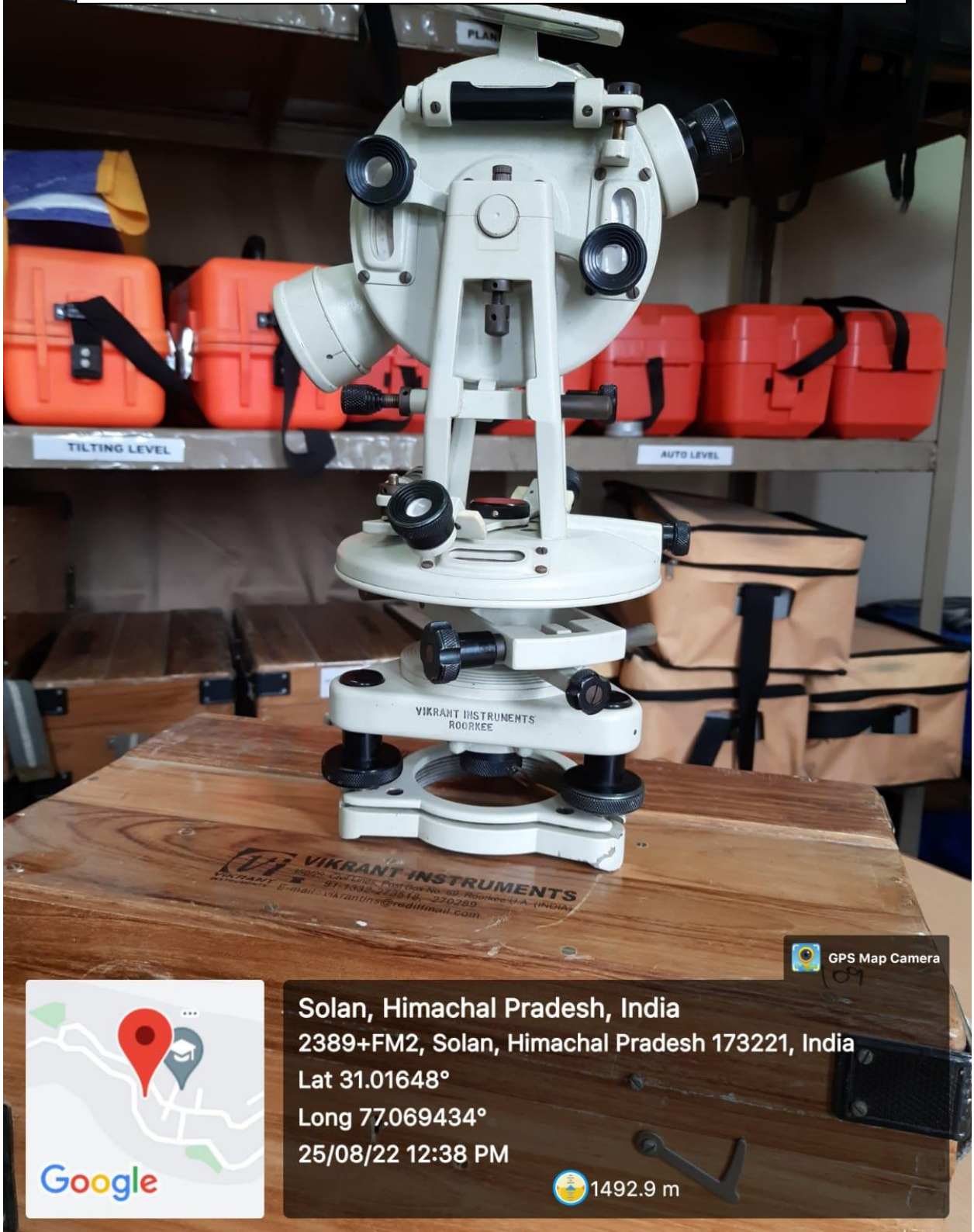
GPS Map Camera



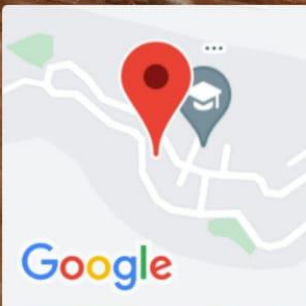
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 1492.9 m

THEODOLITE



GPS Map Camera



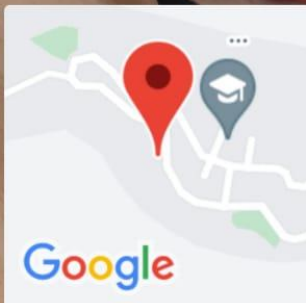
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1492.9 m

AUTO LEVEL



GPS Map Camera



Solan, Himachal Pradesh, India
2389+FM2, Solan, Himachal Pradesh 173221, India
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25/08/22 10:32 AM

1497.6 m