

TrodX

GROUND MULTI-SENSORS ROD

**INSTRUMENTATION FOR
HYDROGEOLOGICAL
STUDIES WITH
THERMAL
TRACING**



TrodX consists of a PVC tube with temperature sensors fixed at different depths according to the specific needs of the client to study water runoff with thermal tracing.

The sensors measure the temperature of the water and sediment, allowing the identification of thermal variations related to exchanges between surface water and the underground aquifer.

According to the approach described by Naranjo and Smith (Ref 1), the analysis of heat gradients provides estimates of infiltration rate and hydraulic conductivity.

- ✓ Wi-Fi Communications with smart phones Android or IOS
- ✓ Memory for 700 000 temperature measurements
- ✓ Accuracy $\pm 0.125^{\circ}\text{C}$ typical, Resolution of 16 bits, 0.0078°C TTC typical in water 4.5 min, air 10 min
- ✓ Up to 12 sensors per TrodX, minimal distance between sensors of 50mm
- ✓ Robust PVC tube of 1.05 OD, maximal length of 2 meters
- ✓ Optional external controller with 7 meter cable
- ✓ Replaceable lithium battery, approximate battery life of 2 years

Ref 1: Quantifying Seepage Using Heat as a Tracer in Selected Irrigation Canals, Walker River Basin, Nevada, 2012 and 2013

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