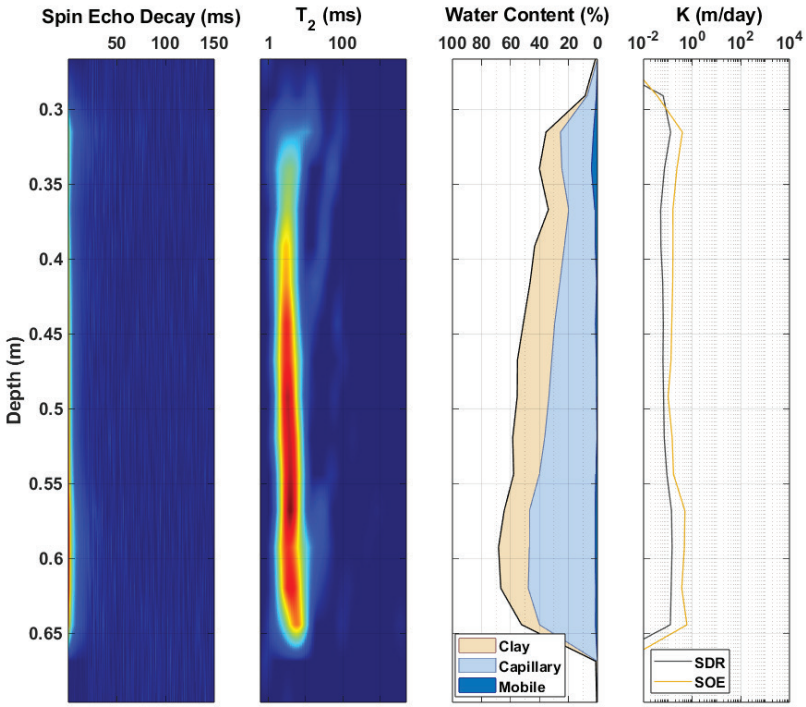
Helios Trek™

Hand-portable and high-resolution NMR technology for rock and soil core analysis

NMR core analyzer for laboratory and field applications

The new, lightweight Helios Trek provides rapid, high-resolution, and high SNR magnetic resonance data. This data may to used to estimate the following hydrogeologic properties of soil and rock core samples:

- Porosity
- Bound and mobile water content
- Pore size distribution
- Hydraulic conductivity
- Sediment classification



Applications

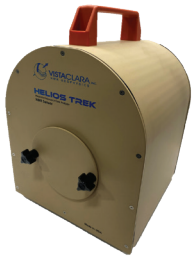
- Moisture Content Measurement Analysis in Soil and Rock
- Aquifer and Aquitard Characterization
- Bound/Mobile Cutoff Calibration
- Saturation and Drainage Dynamics
- Petrophysical Calibration
- Porous Media Dynamics

Helios Trek™ lightweight and high-resolution NMR core analyzer

FEATURES

Field portability

The Helios Trek's lightweight and rugged design allows measurement in both the laboratory and field settings. With Helios Trek, you can quantify water content and hydrological properties immediately after collecting samples in the field.



Helios Trek™

Dart Portable NMR Control Unit

The Helios Trek operates from the Dart™ multi-function, portable NMR control unit, which is used to operate all Dart™ family products.

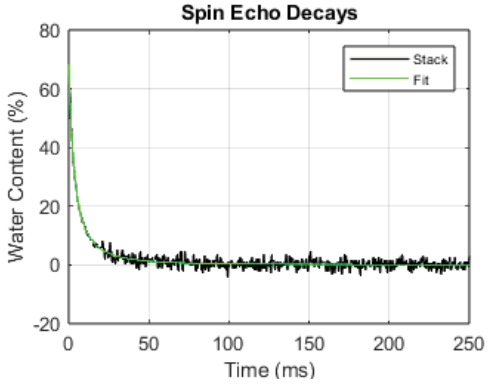
Battery-Powered Dart Control Unit

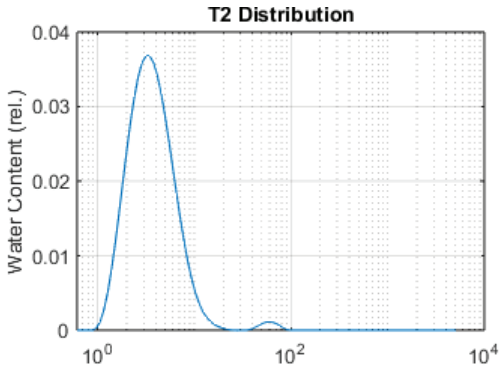
Ultra-Short Echo Spacing

Echo spacing as short as 200 microseconds ensures the most accurate assessment of clay-bound water content.

Measurement Capabilities

Helios Trek performs NMR measurements using stationary or stepped modes. The acquisition software measures the NMR water signal using a Dual-wait CPMG pulse sequence. Additional multi-dimensional pulse sequences include T1-T2.





SPECIFICATIONS

Frequency: 456 kHz

Echo Spacing: 200 µs

Max Core Diameter: 2in (5cm)

Lateral Resolution: 1.5in (4cm)

Helios Trek sensor weight: 10 lb (4.5 kg)

Dart Control Unit Weight: 17 lb (7.7 kg)

Power: 24V DC

Laptop Interface: USB/Windows

† Protected by US Patents: US 10,302,733 B2

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NMR Geophysics

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