TELEDYNE e2v
Everywhereyoulook™
Part of the Teledyne Imaging Group

QUANTUM GRAVITY SENSING

Seeing the Invisible




Gravity is emerging as a new frontier in sensing, bringing the ability to passively detect objects and voids, through difficult to penetrate materials such as soil, rock, lead and water.

Teledyne e2v is developing a quantum gravity gradient sensor that is based on cold atom interferometry technology. These technologies are inherently referenced to the properties of an atom and therefore possess an unparalleled stability. Due to noise rejection, brought about by the gradient measurement, the measurement speed can be orders of magnitude faster than conventional methods.

These devices are exploiting Teledyne e2v's long heritage in advanced engineering to enable field measurements and in other hostile environments.

KEY BENEFITS & FEATURES

- Highly penetrating sensing capability
- Sensitive to changes in nearby density or mass
- Gravity gradient sensor for advanced environmental resilience, & faster measurement time
- Engineered for robustness & environmental stability

APPLICATIONS

Detect natural or artificial variations in ground conditions, revealing:

- Tunnel workings
- Sink holes & other voids
- Oil, gas & water mixtures in oil fields
- Heavy materials, such as radioactive substances or lead
- Certain geologies
- Changes in Earth-scale masses—ocean currents, volcanology, glaciers etc.
- Navigation

First generation quantum gravity gradient sensor

Custom solutions for customer specific requirements available.
Email us at quantum@teledyne-e2v.com

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