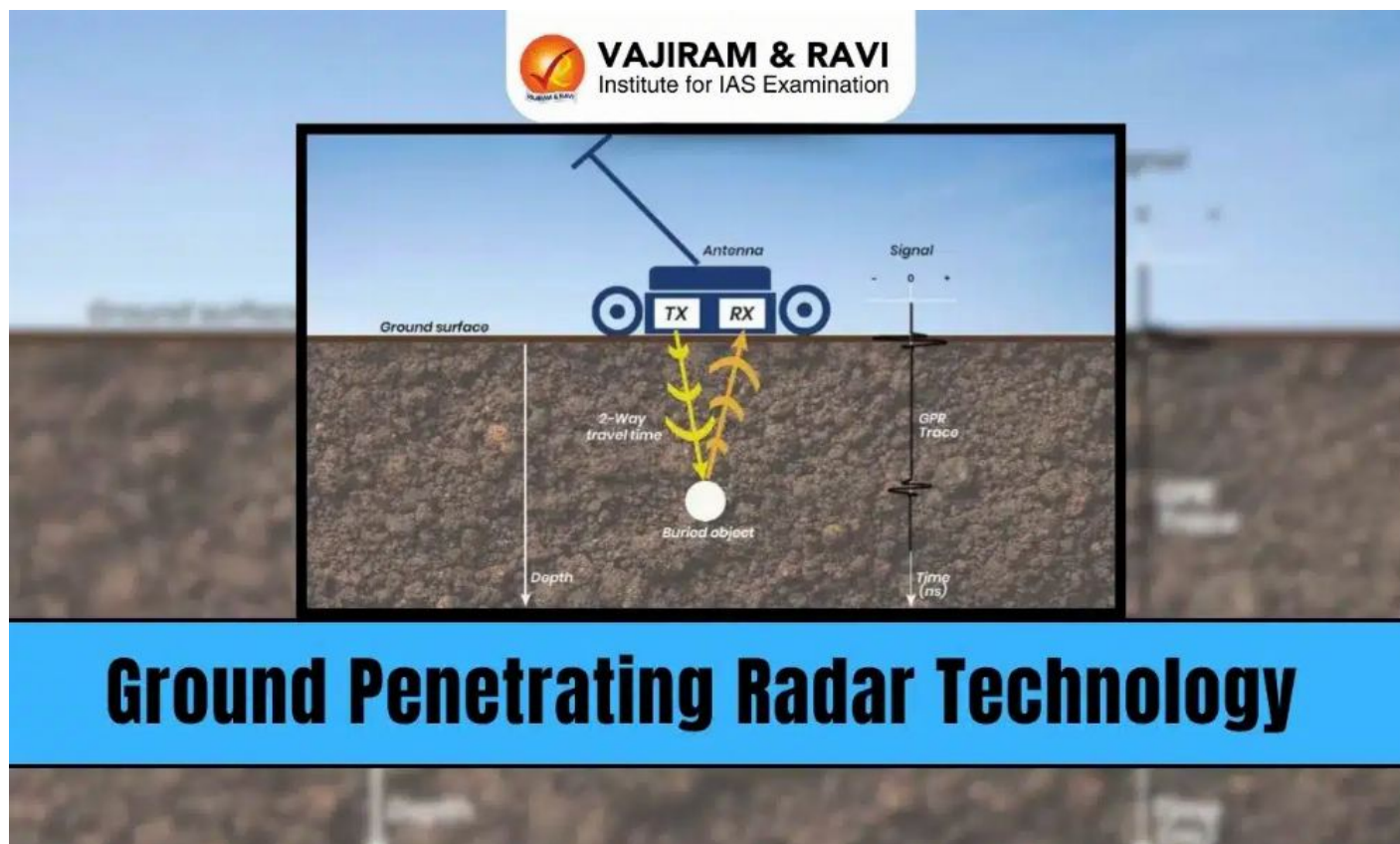


Ground Penetrating Radar Technology

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Ground Penetrating Radar Technology Latest News

A team from the Indian Institute of Technology (IIT) Kanpur has discovered signs of ancient Buddhist stupas and structural remains buried beneath the soil in Yamuna Nagar district of Haryana by using advanced Ground Penetrating Radar (GPR) technology.

About Ground Penetrating Radar Technology

- It is a **geophysical method** that uses **high-frequency electromagnetic pulses** to image the subsurface of the Earth or other solid materials.
- It is a **non-destructive detection** and imaging method which identifies subsurface elements either underground or within a surface such as concrete.

Working of Ground Penetrating Radar Technology

- GPR uses a **transmitter antenna** to send high-frequency, pulsed, **Electromagnetic waves** (typically from 10 MHz to 1,000 MHz) into the subsurface to acquire information.

- The wave spreads out and travels downward until it **hits a buried object** or boundary with different **electromagnetic properties**
- Part of the wave **energy is reflected or scattered back to the surface**, while part of the energy continues to travel downward.
- The wave is reflected back to the surface to a receiver antenna that records the amplitude of the reflected energy and the arrival time of the wave on a digital storage device.

Applications of Ground Penetrating Radar Technology

- GPR can detect both **metallic and non-metallic objects**, giving it a wide range of applications.
- It reveals all types of utilities, including electrical conduit, steam pipes, telecommunications lines, gas & oil lines, water lines, and sewer & storm pipes.

Source: TOI

Source: <https://vajiramandravi.com/current-affairs/ground-penetrating-radar-technology/>

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