

Ground penetrating radar



Figure 1: a ground penetrating radar

Ground penetrating radar (commonly called GPR) is a geophysical method that has been developed over the past thirty five years for shallow, high-resolution, subsurface investigations of the earth. GPR uses high frequency pulsed electromagnetic waves (generally 10 MHz to 1,000 MHz) to acquire subsurface information. Energy is propagated downward into the ground and is reflected back to the surface from boundaries at which there are electrical property contrasts. GPR is a method that is commonly used for environmental, engineering, archeological, and other shallow investigations.

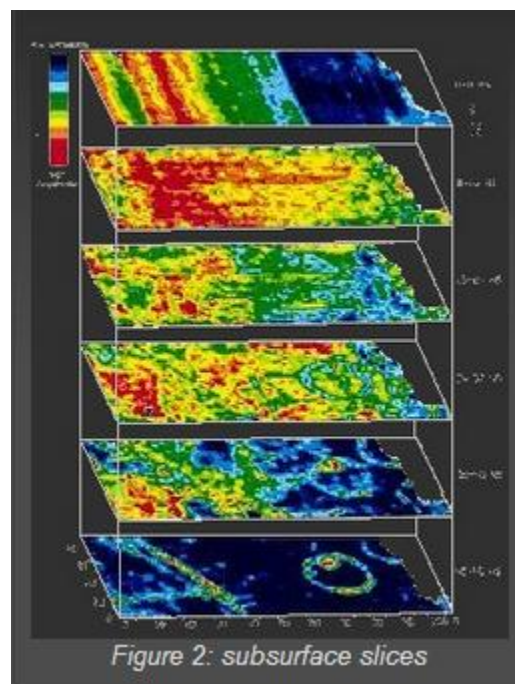


Figure 2: subsurface slices

GPR is used to map geologic conditions that include depth to bedrock, depth to the water table, depth and thickness of soil and sediment strata on land and under fresh water bodies, and the location of subsurface cavities and fractures in bedrock. Other applications include the location of objects such as pipes, drums, tanks, cables, and boulders, mapping landfill and trench boundaries mapping contaminants, and conducting archeological investigations. Integration of GPR data with other surface geophysical methods, such as seismic, resistivity, or electromagnetic methods, reduces uncertainty in site characterization.

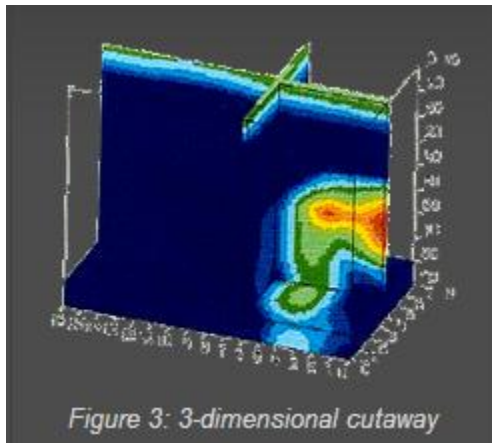


Figure 3: 3-dimensional cutaway

Radar survey, conducted by Dean Goodman, in Japan revealed a circular burial mound with a burial inside it, which shows up clearly in the bottom slice. Figure 3 is a 3-dimensional cutaway of a burial chamber that was found by Dean Goodman on a mound on the Island of Kyushu in Japan. It contained the remains of a warrior with variety of artifacts, including bronze swords.

(Source of the pictures: Dean Goodmann)

Source: <http://www.radartutorial.eu/02.basics/rp16.en.html>