Title (en)

METHOD AND APPARATUS FOR ACOUSTIC DETECTION OF MINES AND OTHER BURIED MAN-MADE OBJECTS

Title (de)

VERFAHREN UND ANORDNUNG ZUR AKUSTISCHEN DETEKTION VON MINEN UND ANDEREN VERGRABENEN KÜNSTLICHEN GEGENSTÄNDEN

Title (fr)

PROCEDE ET DISPOSITIF POUR LA DETECTION ACOUSTIQUE DE MINES ET AUTRES OBJETS ARTIFICIELS ENTERRES

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Application

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Abstract (en)

[origin: WO9904287A1] A device (10) which employs an acoustic signal having one or more frequencies for penetrating into ground, water, or sediments and vibrating a compliant buried object (8) is provided. When these acoustic signals encounter an acoustically compliant object (8) such as a mine, the acoustic signals vibrate the compliant object (8), leading to a vibration of the compliant object (8) against the boundaries of the surrounding medium such as ground sediment, creating a nonlinear distortion of the probing signal including the generation of harmonics and acoustic waves with combination frequencies (nonlinear signals). These nonlinear vibrating signals are received from the surface by a sensor (20). The amplitude of the measured nonlinear signals indicates the presence of an acoustically compliant object (8) such as a mine. The present invention also relates to a method and apparatus which emits an electromagnetic RF probing signal and acoustic or vibration signal (modulating signal), detects the reflected electromagnetic signal from the buried object (8), and processes the received signal, identifying the modulation caused by vibration.

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