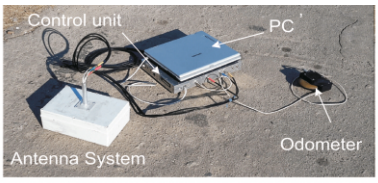
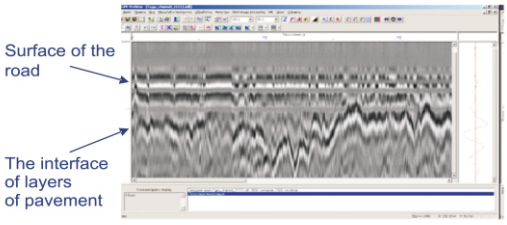
GROUND PENETRATING RADAR "ODYAG"



Set of the radar equipment

Ground penetrating radar in mobile laboratories

Probing manually



Result of probing of the road

Testing

Results of tests

Parameters	The actual value from the core, cm	Estimated value using the results of GPR surveys, cm
Site 519 km.		
Package thickness of asphalt layers	10,5	10,12
The thickness of the first and second layers	The upper layer – 5,5 The lower layer – 5,0	The upper layer – 5,17 The lower layer – 4,94
Site 528 km.		
The thickness of the first, second and third layers	The upper layer – 6,0 The second layer – 4,0 The third layer – 4,0	The upper layer – 5,99 The second layer – 4,09 The third layer – 3,91

Thickness of asphalt layers

Areas of Application

Monitoring of pavements.

Specification

Probing impulses: amplitude 75 V;
rise time 0.4 ns.
Antenna: frequency band 0.8÷1.6 GHz.
Sampling receiver: noise level 0.2 mV;
sampling step – 10 ps;
increase of the transient response 0.2 ns;
synchronization reading error < 3 ps.
Observation interval: 2 μs.
Collects data at speed up to 70 km/h every 23 cm.

Advantages

Isolation (Patent UA81652). Direct signals from the radiating antenna are attenuated to the receiver input up to -65 dB. Amplitudes of the useful signal are increased. Variable sample duration and its optimization (Patent UA96241) increase the signal/noise ratio. High stability of synchronization allows accumulation of signals. Analog accumulation at receiving expands operating bandwidth and increases the signal/noise ratio. Improvement of energy performance increases probing depth, accuracy of localization of subsurface objects and the ability to detect low contrast objects.

Stage of Development

IRL6, TRL5.
There is testing a prototype system in an appropriate environment.

IPR Protection

IPR1, IPR3

Contacts

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