

Systems, Equipment and Devices of the “Deep Vision” Technology

Composition of system apparatus of system «Deep Vision»

Remote system for earth sounding «Deep Vision» consists of the following devices, units, facilities, software products.

Stationary equipment:

- research nuclear-magnetic resonance (NMR) facilities;
- electron paramagnetic resonance facilities;
- research thermal neutron reactor «ИР-100» with traversing box in the active zone (neutron current 2×10^{12} n/cm² sec);
- 2nd class chemical and radiochemical laboratories for work with isotopes;
- spectrometer facility and shielded radiometric facility «УМФ-2000»;
- technological unit for chemical treatment of photographs with the facility for vacuum laying of prepared lactose solutions onto the photographs;
- electronic detachable devices for scanning from photographs and ore minerals (containing ores) samples the information-and-energy spectrums and recording them on «testing» and «working» holograms;
- reference holographic matrices with recorded spectrums of NMR atoms of substances (metals and organic substances);
- electromagnetic camera (Kirlian camera) for visualization of boundaries of deposit contours on space photographs and transferring them onto the geological map of search area using the digital video camera connected with the PC;
- PC software complex to define the coordinates of examination points in the area and displaying them on the geographic map;
- stationary identification system «Спектр» for decoding resonant spectrums of searched substances;
- center for processing geophysical characteristics of interpretation of field materials and building up thereby depth profiles of the deposit;
- editorial and publishing complex for preparation of maps, reporting documents and calculation materials for estimation of volumes of ore deposits with commercial content of metals in them.

Mobile equipment:

- goniometer and laser rangefinder mounted on the holder;
- generators of microwave radiation of different frequencies from 0,1 - 60 THz;
- lower-power laser facilities combined with rotary electromagnetic field facilities;
- mobile transmit-receive microwave radiation apparatus;
- reference holographic matrices with recorded spectrums of NMR atoms of substances (metals and organic substances);
- wide-angle receiving-phase antennas;
- geophysical devices (theodolites) with microwave radiation narrow-beam antennas fixed on them (to define bearings and beam slope angles);
- mobile connection and GPS receiver;
- laptop with software for recording and processing geophysical measurements in field conditions.

Equipment in-use here:

Type and Volume of work	Systems, equipment and materials
<p>Preparatory works</p> <p>Laboratory manufacture of test gel-wafers</p> <p>Recording of electromagnetic spectrum of the sought-for substance on test wafers</p>	<p>Chemical Laboratory of the 1st category</p> <p>Ultra-pure chemical reagents</p> <p>Electron paramagnetic resonance equipment, standards of minerals, special press up to 600 atm.</p>
<p>Object identification</p> <p>Radiative processing of aerospace photographs on research nuclear reactor with test wafers of the sought-for substance and sensitive X-ray film</p> <p>Chemical processing of negatives that have undergone radiative and energoinformational impact in the nuclear reactor</p>	<p>Research nuclear reactor “IR-100”, aerospace photographs, test gel-wafers, highly sensitive X-ray photographic plates</p> <p>Chemical Laboratory of the 1st category</p>
<p>Contour object deciphering</p> <p>Visualization of object contours and also incoming and outgoing torrents</p> <p>Obtaining of computer image of object contours.</p> <p>Photogrammetric calibration of computer image of the object (geographic connection of the image’s points and the area)</p>	<p>Kirlian-camera</p> <p>Digital camera connected to Kirlian-camera and PC. Special software</p> <p>The geographic map of an investigated territory</p>

Remote Resonance Sounding of an Object Directly On-site

<p>Calibration of mobile equipment</p> <p>of the “Deep Vision” complex,</p>	<p>THz generators, ultrahigh frequency signal receivers and other equipment, standards of minerals</p>
<p>Conduction of resonance sounding</p> <p>of an object on-site</p>	<p>Mobile equipment of the “Deep Vision” complex, GPS-navigator, laptop</p>
<p>Preparation of the project report</p>	<p>Analytical processing of data array in analytical center</p>