

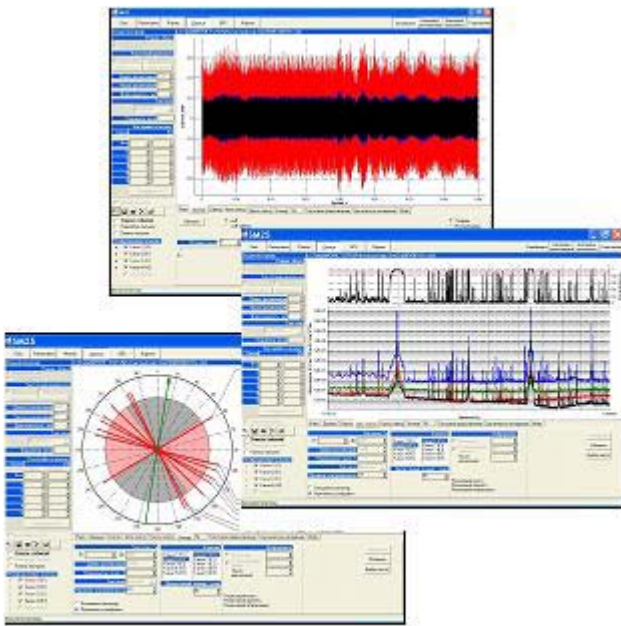


THE RMT DATA PROCESSING AND INTERPRETATION SOFTWARE

(MODIFICATIONS FOOT RMT-F, MOBILE RMT-M AND CONTROL SOURCE RMT-CS)

- the operation management and data processing software **SM25**
- the operation management software **GIK** for the RMT-CS modification
- the robust data processing software package **SM+ / RMT**
- the data storage and visualization software package **Geoinf32**
- the 1D inversion software **MEL**
- the 2D inversion software **Shell2d**

THE SM25 SOFTWARE



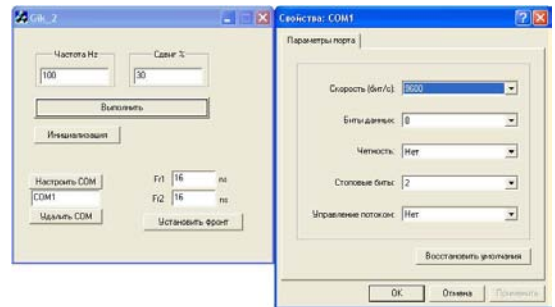
The **SM25** software is intended for the RMT equipment operation control and data processing (obtaining of apparent resistivity and impedance phase curves). Output data formats are *.sbf, *.laf, *.edi and *.txt. Output files of the **SM25** software can be used in the **Geoinf32**, **MEL** and **Shell2d** programs, and also in the **WinGLink**, **Zond MT1D**, **Zond MT2D** inversion software packages.

Using the **SM25** software one can fulfill initial testing and control of the equipment operation, setting of equipment parameters (numbers of magnetic antennae, lengths of receiving electric lines, azimuths of magnetic and electric antennae, etc), setting of measurement's parameters (duration, frequency range, etc.), application of magnetic antennae, preamplifier of electric channels and recorder calibrations, connection of the recorder to an external PC, data overview and estimation of their quality (time series, auto- and cross spectra of signals, apparent resistivity and impedance phase curves). GPS coordinates of measurement stations stored in initial data files (both for standard and mobile RMT modifications) are also can be presented in output files. Preparation of radio transmitters list which signals were measured during the field works is available in the software to simplify data processing. Obtained curves can be used for inversion after their export to output files of required formats.



THE GIK SOFTWARE

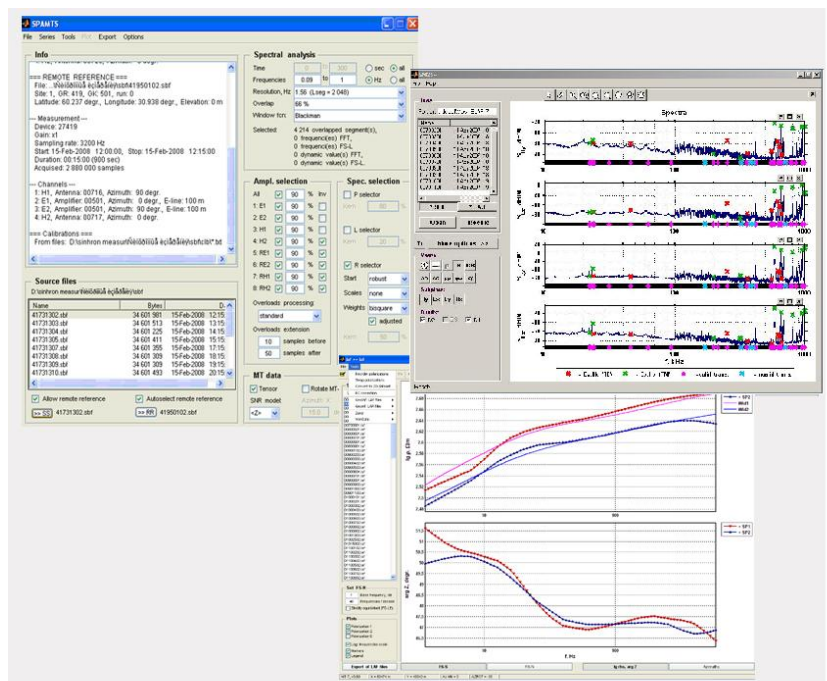
The software is intended for management of signal controlled source used for RMT-CS measurements. Following parameters can be set by this software: signal type, its frequency, signal shape, on-off time ratio and edge slope. These parameters are used for the selection of best signal configuration in particular conditions of measurements.



THE SM+ / RMT SOFTWARE PACKAGE

The **SM+/RMT** software is intended for the robust data processing and analysis, obtaining smoothed curves of apparent resistivity and impedance phase and data export to inversion software tools. It also has a possibility of simultaneous multiple file processing (for example for data files measured along one profile).

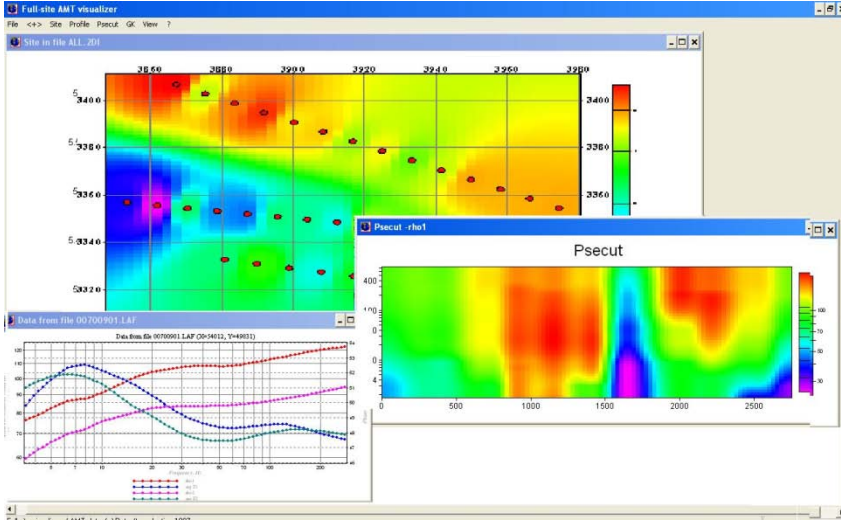
The program provides the calibrations application, data transformation from linear to logarithmical scales, using various methods of data processing, graphical data presentation, data storage in **.txt**, ***.laf** and ***.edi** file formats for following data processing and interpretation in different software (**Geoinf32**, **MEL** and **Shell2d**). Output files of the **SM+/RMT** program can be used in 1D and 2D inversion software packages (**WinGLink**, **Zond MT1D**, **Zond MT2D**).



The SM+ program includes several operation blocks. The first one is intended for the time series data processing, auto and cross spectra calculation of electric and magnetic field components and for obtaining of the apparent resistivity and impedance curves with use various robust and noise filtration techniques. Advanced graphic interface of this block, allows to study features of electromagnetic field components and to estimate the reliability of spectral analyzers of the software. Output files contain apparent resistivity and impedance phase estimations, values of auto- and cross-spectra of all recorder's channels. The second module is used for coordinates setting and the data type selection will be used during the following data processing.



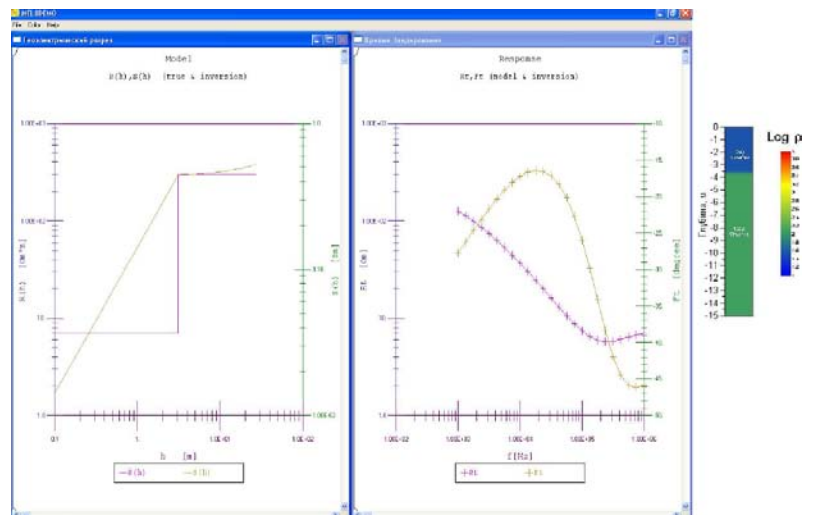
THE GEOINF32 SOFTWARE



This software is intended for RMT data stowage, visualization and their export to inversion software. Geoinf32 allows to derive a coordinate plane with sounding stations; overview sounding curves for each station; plot apparent resistivity and impedance phase distributions of soundings array for selected frequency; derive pseudo sections of the selected parameter along a selected profile; exclude non-valid sounding stations; export RMT data to inversion software tools and other graphic visualization software. The software prepares data files for 1D (**MEL**) and 2D (**Shell2d**) inversion software.

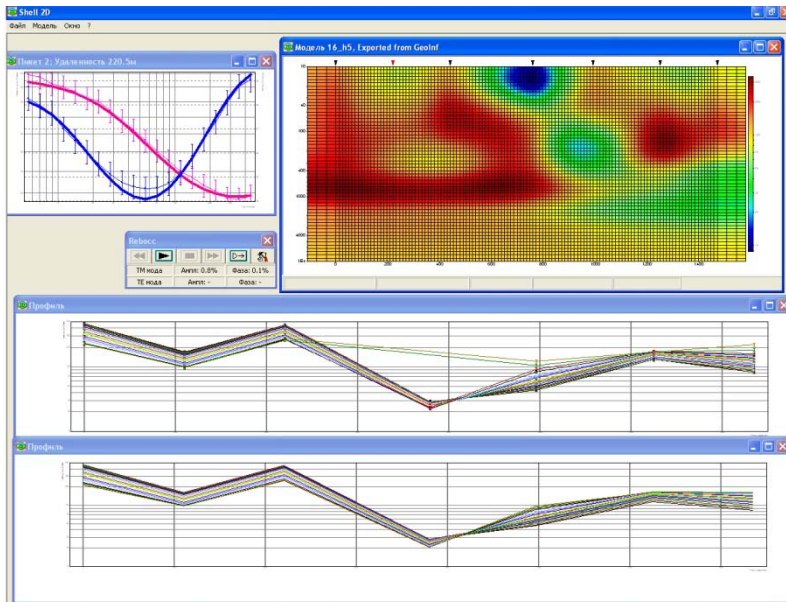
THE MEL SOFTWARE

This program is applied for 1D inversion of MT-AMT-RMT data based on the Method of Effective Linearization (MEL), and for synthetic MT-AMT-RMT data simulation for horizontal layered medium. The software does not require the start model of media. It fit cross sections by minimum residual of calculated curves of apparent resistivity and impedance phase and real field curves.





THE SHELL 2D SOFTWARE



The software package is intended for the 2D simulation and inversion of MT-AMT-RMT soundings. The inversion code is based on integral equation method (modified OCCAM algorithm). The graphic interface allows control the inversion results; change parameters; estimate the approximation reliability and stability of inverse problem solution.

Notes

For 1D and 2D inversions alongside with the programs MEL and Shell 2d can be used

1. Software package **WinGLink** – www.geosystem.net
2. Software tools **Zond MT1D, Zond MT2D** – www.kaminae.narod.ru