IP_Seismic

IPLAB LLC

Software package for seismic & well log interpretation based on neural network (NN) and machine learning (ML)

Installation Guide

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1. Introduction

The **IP_Seismic** machine learning software package is designed for deep qualitative and quantitative interpretation of seismic data together with well data.

Modern technologies of seismic inversion and machine learning are used (neural networks, linear and nonlinear regressions, classification, and algorithms for projection of multidimensional space into 3-dimensional space with RGB visualization of results).

The software is based on the modern concept of separation of the system core and functional content of the system:

The core of the system is made in the form of a classic graphical interface with a set of panels for the project elements tree, procedure tree and graphical panel, where there are graphical windows for visualization of seismic sections, slices, maps, well data. The core includes saving and restoring the project. The main elements of the core are presented as a set of standard classes for describing objects-surfaces, cubes, points, wells with the ability to read, write them and use easily when writing functional modules in the form of plug-ins.

The functional content of the system is made in the form of plug-ins (DLL libraries), including I / O modules with the ability to transfer these functional modules to another system (for example, in Petrel).
The IP_Seismic package is being developed by the company IPLAB LLC - limited liability company "Priezzhev Laboratory" of the official resident of the SKOLKOVO innovation center http://sk.ru/net/1121541/
Company website https://ivanplab.ru/

2. Hardware recommendations

Minimum recommended hardware for IP_Seismic package:

- Processor: Quad-core processor (best with a fast clock speed and high cache). Multi-core CPU recommended for parallel calculations.
- Memory: minimum 16 GB RAM / recommended 32 Gb RAM
- Graphics: any standard
- Disk: recommended SSD to fast access to big seismic volumes
- Display: The quality of the viewing experience increases with the size and number of monitors

3. Software requirements

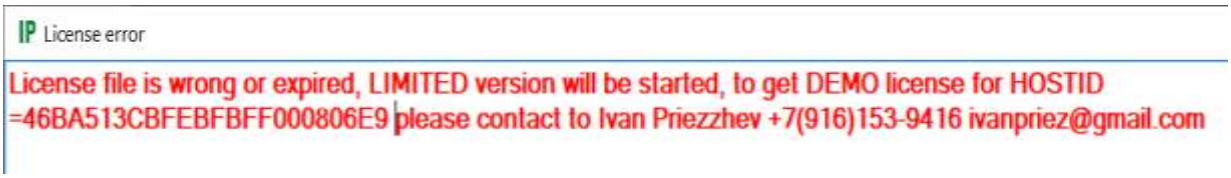
- Microsoft© Windows© Windows 10 64-bit or Windows Server 64-bit
- Microsoft.NET Framework version 4.7 or above

4. Installing

To install the **IP_Seismic** package it is necessary just to unpack the installation **Zip** file to any folder.
Inside the folder there will be one **EXE** file – **IP_Seis.exe**, several **DLL** files and **Help** folder with documentations **PDF** files.
To start the package it is necessary to start **IP_Seis.exe**.

The license is only local (not network) and is linked to the local computer (server).

At the first start, the program gives the **HOSTID** (local information about the CPU, disk, etc.) in error message:



The **HOSTID** (24 hexadecimal numbers) requires to be send to the email address: ivanpriez@gmail.com

The license file will be generated and send back within one day. The file named **license.dat** must be placed to the same folder where **IP_Seis.exe**.

5. Uninstalling

You need just to delete the folder.

6. Help and Support Information

For support information contact Petrel support at your location or send request to:

ivanpriez@gmail.com

or

priezzhev.i@gubkin.ru

It is possible to use **WhatsApp** or **Telegram** for support (Ivan Priezzhev, phone +7 916 1539416)

It is possible to request **Zoom** or **Skype** or **MS Teams** support sessions.

The User Manuals can be accessed in folder **Help** or via Help dialog in Uses Interface of **IP_Seismic.**