

Informational field of GS FRS RAS observational system

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As result of Federal Targeted program, be year of 2013 a significant volume of data was collected. Such data include earthquake calculations and catalogs, as well as digital waveforms.

There are several sources for waveforms: network of FRC UGS RAS stations (includes both, stationary ones and automatic observation points), and other networks' data. First challenge was creating system responsible for collection, transfer and processing of such data, as well as mechanisms for integrating it into GS FRS RAS informational field. It will be reviewed in details later in this work.

Yet there were no convenient way to access data, nor was it possible to query it.

As of 2018, informational landscape of GS FRS RAS have changed significantly. A series of software solutions were introduced to ease access to seismic data for users. Such software includes, but not limited to:

- SDBWarden – a helper software, designed to process input files and send data to database.
- SDBReader – database access application that supports querying with variety of parameters. Example of UI observed on Fig. 1.
- RTSM – application for real time seismic monitoring designed for emergency services.
- RQQDAutoExtractor – a GUI for REQDExtractor, that allows scheduled extraction of waveform data.

| ID | Origin Time | OriginErr. | dErr | Lat. | Long. | Depth | DepthErr | TravelTimes | Loc. Limits | MagBest | N calc | MagnitudesAll |
|-------|---------------------|------------|-------|-------|--------|-------|----------|--------------|------------------|---------|--------|--|
| 18511 | 2017.08.31 03:13:43 | 0,00 | 0,00 | 48,94 | 142,06 | 0 | 0 | sah_kor.gdg | 0,35;0;11.6912 | 1,2 | 1 | Ks = 4 ML = 1,2 |
| 18509 | 2017.08.31 01:30:37 | 5,14 | 162,6 | 28,28 | 57,12 | 110 | 103 | regional.gdg | 0,777.14;0;21.56 | 4,4 | 1 | MPLP = 4,6 MS = 4,4 |
| 18502 | 2017.08.30 22:09:04 | 5,68 | 54,24 | 28,10 | 130,02 | 70 | 31 | iasp91.gdg | 0;70;0;17 | 4,6 | 1 | MPSP = 5,2 |
| 18507 | 2017.08.30 19:34:35 | 0,52 | 3,67 | 47,23 | 142,66 | 3 | 3 | sah_kor.gdg | 0;35;0;0.588 | 1,7 | 1 | Ks = 4,7 MPSP = 3,4 Kr = 7 |
| 18506 | 2017.08.30 18:40:51 | 0,34 | 0,99 | 47,20 | 142,65 | 10 | 5 | sah_kor.gdg | 0;35;0;11.6912 | 2,2 | 1 | Ks = 6,1 MPSP = 4,3 Kr = 8 |
| 18505 | 2017.08.30 16:55:03 | 0,49 | 5,08 | 47,36 | 142,68 | 5 | 6 | sah_kor.gdg | 0;35;0;0.98 | 3,0 | 1 | Ks = 8 MPSP = 4,2 Kr = 7 ML = 3 Kr = 9,5 |

Fig. 1. Interface of SDBReader application.