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new system for data acquisition and storage in Kazakhstan's National Data Centre

During 2024-2025, a state of the art data collection and storage system was created at the Kazakhstan National Data Centre. The system is designed to reliably store all information received by the Data Centre and provide this information for further processing and scientific analysis. Data sources for the created system are data received both in real time and any archive data from various sources and in various formats. The main formats of seismic data entered into the system are CSS3.0 and miniseed, but there is a possibility of significant expansion of this list. The system allows saving data obtained from sources such as - file system (simple data files), Seedlink-server data, and queries to FDSN web services. In addition, the system is capable of querying and storing metadata and response information for all seismic data. If necessary, it is possible to generate metadata and response files based on seismic equipment data, and based on the database (IRIS DMC Library of Nominal Responses for Seismic Instruments). The main programming language used to create this system is Python, and the framework for seismic data processing is Obspy 1.4.1. PostgreSQL 17 is used as DBMS.

E-mail

gordienko.d@kndc.kz

In-person or online preference

Primary author: GORDIENKO, Dmitriy (National Nuclear Center of the Republic of Kazakhstan)

Co-authors: Mr KOMAROV, Igor (National Nuclear Center of the Republic of Kazakhstan); MIKHAILOVA, Natalya (National Nuclear Center of the Republic of Kazakhstan); RYABENKO, Pavel (National Nuclear Center of the Republic of Kazakhstan)

Presenter: Mr KOMAROV, Igor (National Nuclear Center of the Republic of Kazakhstan)

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