

RIS

PASSCAL

PH5 Overview

PH5 is an HDF5 based format and accompanying software suite designed to effeciently work with a large variety of seismic and geophysical data. PH5 separates metadata and data within the PH5 container. This allows for quick and simple modifcations and updates to metadata without a need to modify or touch any waveform data. PH5 provides inegrated tools for validating and checking a data volume. The tools help ensure all necessary metadata are present before submitting for archival at the IRIS DMC. FDSN compliant webservices have been developed at the IRIS DMC to allow users to extract metadata and data from a PH5 volume. A new GUI application allows for easy editing and creation of metadata.

A: PH5 is a data format and software suite: * Allows for ingesting a variety of data formats * Metadata and Data separation * Data is stored compressed in data arrays * Outputs in community standard formats * Accepted format by the IRIS DMC * ~47,000 stations archived in PH5 at DMC to date * Fast : Ingest 1TB raw data in to PH5 in 1 hour Data output ~180MB/S on SSD	A Inp SE SE Re ms meta re C: P T
 B: PH5 GUI: The new PH5 GUI is a single interface for editing, manipulating, viewing, processing and analyzing data in PH5. It allows a user to: * Edit metadata * Load responses * Add/remove data * Plot metadata 	
Write out in supported formats Write out in supported formats	

https://github.com/PIC-IRIS/PH5/

Recent Advances to PASSCAL Software for Managing and Archiving Seismic Data

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PH5



H5 Web Services:

he IRIS Data Management Center's PH5 web services provide FDSN ompatible access to PH5 time series data and metadata at the IRIS DMC. The H5 evalRESP and RESP web services provide a way to evaluate instrument esponse information.

oming soon:

- Availability web service providing time series data availability information
- SEG-Y output from the dataselect web service, including shot gathers
- Higher performance station web service
- Inclusion of PH5 in the IRIS DMC's MUSTANG data quality metrics system

FDSN Web Service Client • ObsPy/Python • irisFetch.m • FetchData • FetchMetadata • etc.	Request Query Web Services Web Service Handler Web Service Response	IRIS DMC PH5 Archive
Service	Summary	Response Data Formats
ph5ws/station	metadata for time series	FDSN StationXML, Text
ph5ws/dataselect	time series data	miniSEED, SAC, GeoCSV, SEG-Y*
ph5ws/event	active source event(shot) metadata	QuakeML, Text, GeoCSV
ph5ws/evalresp	evaluated instrument response information	ASCII-Frequency-amplitude phase ASCII-Complex-spectra Bode style plots
ph5ws/resp	channel response information	RESP
ph5ws/availability*	time series data availability	Text, JSON, GeoCSV, Sync, Request

Nexus

Nexus Overview

Nexus is an easy to use software tool to effeciently generate SEED metadata in StationXML format. Nexus is designed primarily for campaign-style temporary networks in that it exposes only a subset of metadata fields needed to create a valid StationXML document. Nexus leverages the IRIS Nominal Response Library (NRL) to streamline loading of responses into StationXML and reduces user input for standard response information. Nexus abstracts the details of SEED format and inspects miniSEED data to prepopulate many of the metadata fields.



Nexus and PH5 leverage ObsPy internally: Core functionality of Nexus upstreamed to ObsPy



Use PH5, Nexus and ObsPy in your own projects



PR 1185 - SEED -> Inventory read support + NRL client: Main PR contributor: LLoyd Carothers. Largest single Obspy pull request. Adds SEED-Inventory reading, a client for response fetching from NRL and reading of RESP file format response