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an internet based, interactive archive and database for SIP data

Matthias Halisch • Jens Gramenz • Lothar Gorling • Klaus Krause • Iakov Bolotovski

Leibniz Institute for Applied Geophysics

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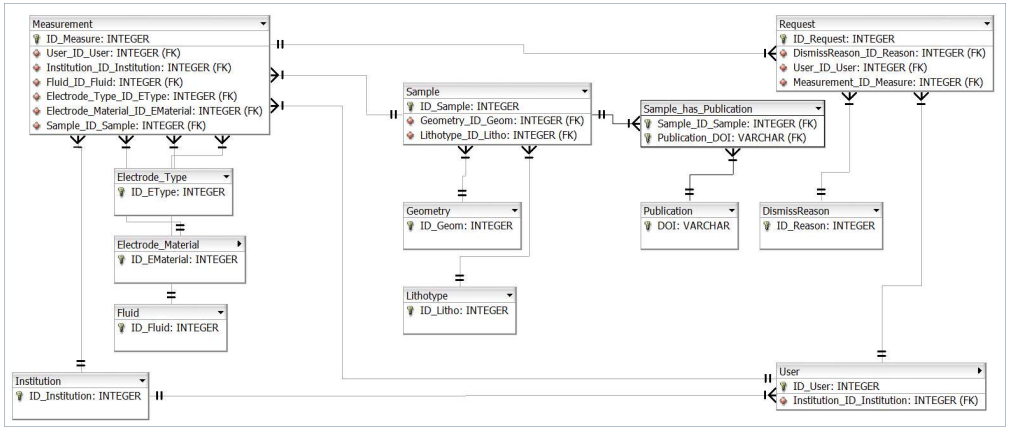
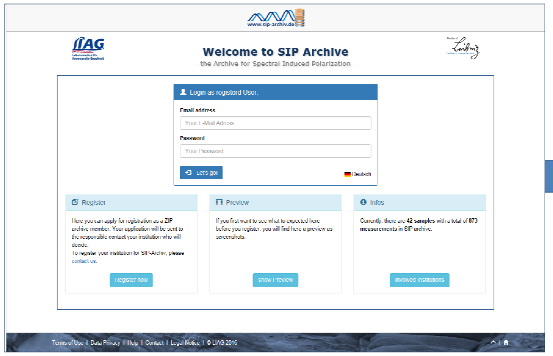
Introduction

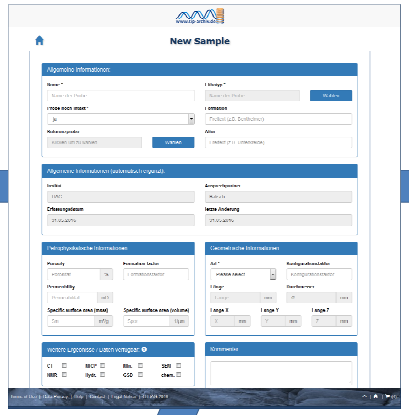
Long-term storage of scientific data has become a topic of utmost importance for the scientific community. Due to European and national initiatives, new guidelines and laws have been validated to ensure a reliable storage and documentation of scientific primary data. Due to more than ten years of experience with the development of scientific database structures, the LIAG decided to create a new database system for a reliable and safe storage of data from SIP measurements. In the following, the authors would like to briefly introduce the main concept of the new database www.sip-archiv.de, to give a short technical report as well as to provide an outlook about the ongoing development.

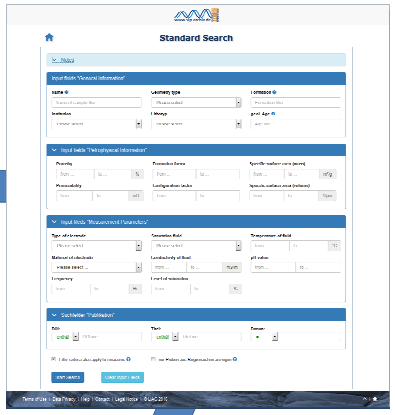
Concept of the Database

The SIP database has been planned with respect to the needs and wishes of the German IP community that have been evaluated between October 2014 and March 2015. Accordingly, the following requirements form the main concept of this database: to provide a safe, long term archive and database structure for SIP data, web based, easy and free to use and self administrated, in order to ensure maximum control over individual and institutional data sets. In addition, this database provides functionalities to exchange and provide data and metadata with respect to the guidelines of good scientific practice. The figure to the right shows a generalized entity-relationship-model of the database.



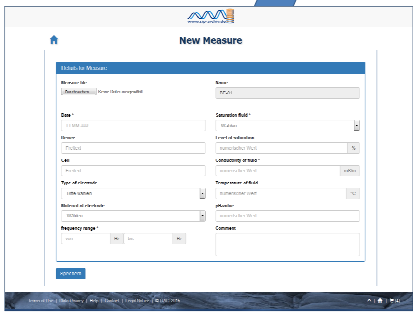


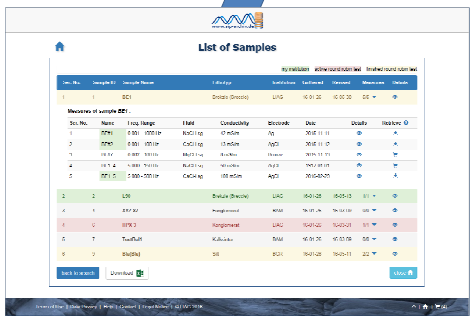




Design & Functionalities

The backend of the database has been developed in PHP, whereas the web frontend uses the software Bootstrap in order to obtain a responsive layout and cross browser capability. Also mobile devices are supported! The database features a simple and clearly structured user interface. With this interface, users can administrate, i.e. upload and extend their own sample or measurement data, search throughout the entire database, and ask for specific data from other institutions. The final application will fully support an English layout.





Summary

With this web based archive and database structure, the national and international SIP community gets a powerful tool to store and manage their data from SIP measurements on a long time scale. Additionally, this archive is specifically designed to enhance national and international research collaborations, to initiate systematic round robin tests and / or projects, and to exchange high quality data safely and self-controlled.

It is free to use, so pre-register now, to stay in touch with the rest of the SIP community. Any feedback is highly recommended and greatly appreciated!

Future Implementations

As an ongoing development, existing functionalities are permanently evaluated and adopted. New functionalities and storage capacities are planned, e.g. the implementation of laboratory SIP measurements on soil and other unconsolidated sample materials, as well as implementing upload and storage capabilities for field and large scale measurements (SIP profiles, 2D pseudo-sections, SIP soundings, etc.).

Corresponding contact: Dr. Matthias Halisch
LIAG, Dept.5 – Petrophysics & Borehole Geophysics
Stilleweg 2, D-30655, Germany
matthias.halisch@liag-hannover.de

This poster was prepared for the 4th International Workshop on Induced Polarization, held in Aarhus, Denmark, 6th – 8th June, 2016

IP2016/4th International Workshop on Induced Polarization