Automated evaluation of object displacement
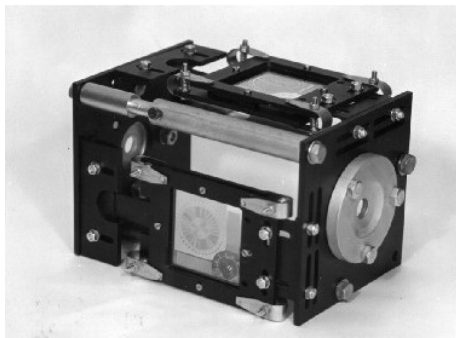
Development status

Phase 4

The transition from the prototype to the final and fully functional form. At this stage, the prototype is already fully tested, or the technology is certified and ready for mass deployment.

IP protection status

Licence

Partnering strategy

Collaboration, licensing

Institution

The Institute of Rock Structure and Mechanics of the Czech Academy of Sciences

Vlastník

Challenge

Although the image data obtained from the TM-71 dilatometer network can usually be captured and send remotely online, the subsequent processing and interpretation of these data still depends on the operator. This puts a disproportionate burden on personnel and degrades the ambition of the equipment to become a fully fledged geotechnical device.

Description

Software for automatic processing and interpretation of image data obtained from TM-71 dilatometers. It automates the evaluation process of the measured micromotions in the positions of the tracked objects (buildings, rock formations etc.). SAMR3D (Software for Automated Moire Recognition) automatically interprets the image information captured on the dilatometer moiré slides into numerical form, which it further processes (evaluates the relative displacement of the moiré slides on the images over time; this displacement represents the relative change in the position of the objects being monitored) and exports the results to an SQL database that is used to store the numerical outputs. The third functional element is a web interface in which the data from the database can be visualized or imported and exported. As a whole, the product greatly speeds up and facilitates the interpretation and display of output data from TM-71 dilatometers.

Commercial opportunity

The product is used wherever it is necessary to monitor the micromotions of the monitored objects, whether it is buildings, for example cultural monuments or other structures where it is necessary to monitor static disturbance, or natural rock formations.