

## **4.3-P2. Maintaining the mission capability of primary IMS station in crisis period, through the use of rationalization inventions on example of PS45 (AKASG), Ukraine**

Malin seismic array (AKASG), works as IMS's PS45 from 2002. It consists of 24 seismic sites and central facility CF-AKASG, based on SAIC technology. AKASG has telemetry system architecture, designed around eight nodes (key sites), that act as concentrators for the data produced by connected sites. During last 13 years of operation, AKASG retains mission capability. Despite on: lose of service support of producer (SAIC), a lack of spare part, delay of planned AKASG upgrade and in conditions of annual severe thunderstorms. Basically, this result has been achieved by introducing of various rationalization inventions on equipment and software of AKASG. Now AKASG presents a unique mixed system that includes Nanometrics and SAIC technologies. Test of usage of Guralp digitiser passed successfully too. Regardless of the technology, site's data can be transmitted via radio, underground low-frequency cables or underground fibre optic cables. Though these inventions are highly effective, these can be considered only as temporary or ancillary measures. In my report I want to present the basic implemented inventions: - methods to improve channels of radio communication; - coordination protocols and interfaces of telemetry system; - implementation of quality monitoring and data equality software.

**Primary author:** PIONTKOVSKYI, Oleksandr (Engineer of AKASG IMS station)

**Presenter:** PIONTKOVSKYI, Oleksandr (Engineer of AKASG IMS station)

**Track Classification:** 4. Performance Optimization