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of the PS19 seismic station

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After 25 years of reliable operation, PS19 (GERES) was modernized in 2017/2018. It was the first major upgrade since the station was certified as primary seismic IMS station in 2002. The German NDC operates PS19 remotely. The required data availability is ensured by preventive maintenance twice a year. The station consists of 25 array elements within an aperture of about 4 km. During the modernization, a total of 200 km cables for power supply and data transmission, connecting the array elements with the central facility, were replaced and the infrastructure was refurbished. A new system for overvoltage protection was installed in order to reliably operate the array in future. The GCI between the central facility and the IDC was changed from satellite connection to internet based VPN routing. All GERES GS13 seismometers underwent on-site reference calibration against a set of GS13s tested at CEA, France and SNL, USA in order to validate each seismometer's response against the values configured in the IDC. Data authentication has been successfully transitioned from DSA to ECDSA on both CD1.1 frame and sub-frame level. An additional broadband seismometer was installed for increasing the station's mission capability. PS19 was successfully revalidated in its new configuration.

Promotional text

IMS stations need to be refurbished at the end of physical life of the equipment. The modernization of PS19 represent the complexity of this task for a 25-elements seismic array. State-of-the-art power supply and overvoltage protection guarantees reliable operation in future.

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