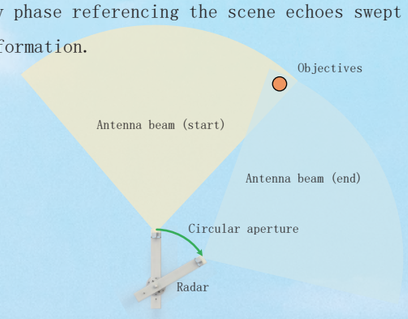
YZ-BP Omnidirectional Slope Detection Radar

Slope stability monitoring radar is an advanced monitoring technology that has emerged in recent years. Based on synthetic aperture imaging and differential phase interference technology, it can quickly acquire small deformation information of a wide range of scenes at a distance, and can be widely used for analysis, disaster warning and stability monitoring of open pit mines, tailings landslides, landslide monitoring of mountain slopes, deformation monitoring of large dams and bridges, disaster detection of avalanches and glaciers, building safety detection, etc.

The Omnidirectional Slope Stability Monitoring Radar is an innovative radar system that has emerged in recent years, based on ArcSAR imaging and differential phase interference technology to achieve 360° omnidirectional deformation field acquisition. The radar uses a rotating arm around an axis to drive an antenna mounted at the front of the arm to form an arc trajectory, which is used to form a panoramic high-resolution radar image by phase referencing the scene echoes swept by the antenna beam and extracting sub-millimetre deformation information.



Product features

- Using electromagnetic wave remote sensing detection, regardless of rain, snow, fog and other climatic conditions and daytime, night and other lighting conditions, can work around the clock;
- No need to construct and install sensors on the measured body as on the slope, dam, etc., rapid and flexible deployment, low cost of use and maintenance;
- Maximum working distance of 5 km, with the ability to monitor the whole scene of 360° , a wide range of detection, high efficiency, especially for "two mountains sandwiched by a ditch" and other complex scenes of good adaptability;
- The accuracy of deformation measurement is better than 0.1mm, the data update rate is better than tens of seconds, and it is extremely sensitive to surface deformation and displacement, which is conducive to early warning of disasters;
- Small size, light weight, low power consumption, with navigation satellite tame long stable time base, configuration of meteorological workstation, high reliability of work, suitable for long-term monitoring applications.
- Open data interface, the system is highly customizable, fully cooperate with the user secondary development and integration.

TYPICL APPLICATION

Azimuth coverage	360° or specified sector
Pitch coverage	-30 ~ 45° adjustable
Detection Distance	No less than 5km
Range resolution	Better than 0.5m
Angular Resolution	Better than 0.3° (on all bearings)
Deformation sensitivity	Better than 0.1 mm (on all bearings and distances)
Scanning speed	1 ~ 10 minutes/week
Power consumption	No more than 100W
Operating temperature range	-25 ~ 55° C
Operating humidity range	5 ~ 95%
Protection	IP65
Power supply	Utility/solar/generator/battery
Communication	Wired LAN / Wireless WIFI / 4G mobile network

APPLICATIONS

Participated in the rescue and relief slope monitoring of the Ganluo section of the Chengkun Railway for a period of three months, working steadily and effectively to assist in the monitoring and early warning role of landslides.