

ANALYSIS OF CHARACTERISTIC AND THRESHOLD DETERMINATION OF VELOCITY AND INVERSE-VELOCITY BY SLOPE STABILITY RADAR DATA

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ABSTRACT

Slope stability at open pit mining system for safety and economics element is critical issue with employees and equipment damage due to danger of slope failure at the mining environment. Commonly uncertainty on slope stability analysis consist of physical properties, mass movement, and structural geology. Slope stability monitoring with mass movement (displacement) considered to determine the stability of slope wall. Measurable real-time data monitoring provided to reduce risk of unstable slope wall involved with employees, equipment, and economics at the mining environmental.

Slope Stability Radar as a monitoring instrument used in several of Indonesian open pit mining. Accuracy, realibility, intensity of SSR monitoring considered very realible to represent "real deformation" of slope wall. On Slope stability Radar data analysis, trend of graphics behaviour is "the key" of monitoring. Combined of trend deformation, velocity and inverse-velocity provide threshold with early warning system prior to failure.

Geology structures fold and thrust fault deleterious stability of slope wall which a lot of case succeed as a "triggers" of failure occurs. By velocity and inverse-velocity rate represent the acceleration of the area with structural geology involved change rapidly.

The case study conducted as an effort to help engineer boost "confident" to determine characteristic of failure by the data of slope stability radar and trend particularly with structural geology involved. Variety of graphics characteristic from 15 analysis data purpose to determine "threshold alarm" and proposed as reference on SSR monitoring system for the risk management program at coal mining environmental.

Keyword : Slope Stability Radar, Velocity, Inverse-velocity, Structural geology, threshold alarm.