



Stochastic investigation of rock anisotropy based on the climacogram

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Anisotropy plays an important role on rock properties and entails valuable information for many fields of applied geology and engineering. Many methods are developed in order to detect transitions from isotropy to anisotropy but as a scale–depended effect, anisotropy also needs to be determined in multiple scales. We investigate the application of a stochastic tool, the climacogram (i.e. variance of the averaged process vs. scale) to characterize anisotropy in rocks at different length scales through image processing. The data are pictures from laboratory, specifically thin sections, and pictures of rock samples and rock formations in the field in order to examine anisotropy in nano, micro and macroscale.