TU Clausthal

Kolloquium zur Masterarbeit

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„Automated Particle Size Distribution Estimation using Image Processing in Mining“

Particle Shape is known to have deep influence on several engineering methodologies and properties such as particle size distribution in building material, food industry, plastics technology and many others. Previously it has been performed using conventional ocular inspection such as sequential sieving. In geotechnical performing an analysis had lacked rational methodology and solid objective to classify particle shapes in conventional quantitative measures.
Traditionally wide range of usage makes the Sieve analysis most common for the particles size distribution but considering this fact that Sieve analysis provides relative low quality of measured particles and it consumes a lot of time. Therefore, recent development in image processing and analysis has opened new path to determine the particles shapes along with different quality parameters. Image Processing Unit which is designed to captures the pertinent images of the particles falling from the material channel by dealing challenges of mining industry i.e. light, shadow and dust and computes the best possible size analysis using advance image processing techniques. Different important parameters of particle size analysis have been computed i.e. area and ratio (length to width) of the particles which hold primary importance in the quality process. Lastly, we did evaluation of the system by performing accuracy test by comparing traditional method of measurements, i.e., Vernier Caliper and Image Processing and time complexity of the image processing and Vernier caliper.

Mittwoch, 27.11.2019, 09:00 Uhr,
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