SEQUENTIAL MEASUREMENT IN OPTICAL TOMOGRAPHY SYSTEM INTEGRATED WITH MAGNETIC SEPARATOR

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ABSTRACT *Magnetic separation of pulverized mixture of materials with various magnetic properties can be performed in high-gradient magnetic field. If magnetic ingredients possess sufficiently different optical properties optical tomography can be used as a tool for process monitoring. The imaging precision of magnetic particle concentration depends on accurateness of optical signal measurement emitted by the transmitters along with the signal measured getting to the detectors. The whole measurement involved very weak signals and takes place in the presence of strong signal distortion. The key issue is the diformed signal reconstuction. The paper presents the sequential measurement algorithm with limited number of repetition. The objective of integrating the optical tomography system is to create the image of mixture spatial distribution. The limitation is the time needed for image reconstruction.*

Keywords: *optical tomography, optical measurement, high gradient magnetic separation, sequential measurement, uncertainty of measurement*