

Surface Roughness Quality Improvement using Real-Time Machine Vision

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The quality of a machined surface manifests the accuracy of the process in relation to specified dimensions. The purpose of this study is to analyze and predict in-process surface roughness of a machined work piece using machine vision and turning parameters. A machine-vision system and image processing software would perform precision inspections, while providing feedback to regulate turning parameter as well as collect data for analytical models. The new analytical models will be compared to the results obtained by conventional models. Research results will determine the impact of parameters on machined surface deterioration.