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**The two dimensional microstructure characterization of cemented carbides with
an automatic image analysis process**

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Abstract

The traditional two dimensional microstructure characterization of cemented carbide, based on stereology of linear intercept method, requires tedious and subjective manual measurements. In this study, an automatic image analysis procedure with two key techniques, i. e. maximum class square error method and watershed transformation method, has been successfully developed. The image analysis for WC-16Co cemented carbides with this procedure easily acquires consistent microstructure parameters. The analysis for area weighted WC grain size, as well as the subsequent mean free path of Co binder show quite different results compared with the conventional number weighted data. It is found that for both

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