

# Form measurement of hand-scraped surfaces using an Abramson oblique-incident interferometer

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*This study presents application of an oblique-incident interferometer for three-dimensional measurement of the rough surface form finished by hand-scraping. Hand-scraping is one of finishing utilized for the sliding parts of the machine tools or the surface plates of the precision measuring instruments. In general, the finishing of the hand-scraped surfaces is evaluated by engineer's blue testing, however, it often requires an expert skill and hard work. To realize the quantitative evaluation of the finishing and automation of fabrication, three-dimensional measurement of fine form of the hand-scraped surface will be necessary. In this study, an Abramson interferometer has been applied for the surface form measurement of the hand-scraped surface. The measurement time and measurement accuracy of the developed oblique-incident interferometer were compared with a commercially available vertical-incident interferometer. The developed oblique-incident interferometer allows non-contact measurement of the rough surface with shorter measurement time.*

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