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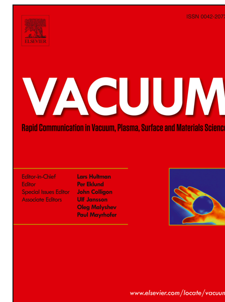

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Advanced scanning paths for focused ion beam milling

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Abstract

An effect of novel path generation algorithms for focused ion beam (FIB) milling is characterized in this paper. The basic concept of the suggested paths is to distribute the directional artifacts induced by the ion beam in order to overcome or minimize the inevitable drawbacks of FIB milling. Path generation algorithms, inspired by conventional mechanical machining, were applied to the FIB scanning paths. Our results showed that the scanning path had a significant influence on the product quality with negligible time loss. Numerous paths could be generated using the suggested approach, and eight representative paths were selected for experimental characterization with regard to the surface morphology, sputter yield, and artifacts formation. Our results showed that

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