*Sensors and Materials*, Vol. 26, No. 6 (2014) 429–434
MYU Tokyo

S & M 1010

# Dependence of GaN Removal Rate of Plasma Chemical Vaporization Machining on Mechanically Introduced Damage

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(Received April 15, 2014; accepted June 10, 2014)

***Key words:*** hard-to-machine material, atmospheric-pressure plasma, PCVM, damaged layer, GaN

A high-efficiency planarization method combining atmospheric-pressure plasma etching [plasma chemical vaporization machining (PCVM)] and mechanical polishing is proposed. The convex part of a substrate surface, considered to be affected by mechanical action, is removed preferentially by PCVM. However, it is not evident whether the PCVM removal rate of the damaged layer of a gallium nitride (GaN) substrate increases. In this study, the dependence of removal rate on removal depth is investigated using a GaN substrate with a damaged layer. As a result, the removal rate of the damaged layer is observed to be three or four times greater than that of deep undamaged layers.

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