
Ultra-smooth SiC and oxide surfaces planarized using catalyst-referred etching

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Abstract

Catalyst-referred etching (CARE) has been invented and developed over several years by our group to accomplish atomic level smoothness, no micro-scratches, local and global uniformity of SiC and oxides surfaces. The method utilizes a deposited Pt layer on a rubber pad as a catalyst pad and water as an etchant. Chemical etching occurs when the topmost wafer surface comes into contact with the catalyst plate in the etchant. Based on this concept, CARE can produce crystallographically nondamaged and smooth SiC and oxides surfaces with a root-mean-square roughness of less than 0.1 nm over a whole wafer.

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