

Surface Morphological Evolution during Chemical Dry Etching of Crystalline Si using F radicals and NO Gas

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surface morphological change during chemical dry etching of single crystalline Si using F radicals and direct injected NO gas was investigated. When NO gas injected into the chamber where F radicals were supplied from a remote plasma source using NF_3 input gas, Si surface was pitted and roughened during chemical dry etching and textured morphology changed with NO gas flow rate, total gas flow rate, and etching time. Pitted and roughened morphology of Si developed during fast chemical dry etching led to reduction in the reflectance of visible light.