

Surface change of Si by oxygen plasma and thermal heating

전문규, 박정호, 김준환, 김영채*
한양대학교
(yckimy@hotmail.com*)

Atom recombination which is the basic theory of atom behavior, applies to surface modification, thin film deposition, dry cleaning and the development of the thermal protection tiles of space shuttle.

For the clarification of atom recombination mechanism, we measured oxygen atom recombination probabilities on silicon and silica surfaces at the variable temperatures and investigated the change of silicon and silica surfaces by oxygen atom recombination.

We know three results from the study. First, oxygen atom recombination is dependent on temperature. Second, silicon surface is more sensitive than a silica surface by therm and oxygen plasma discharge. Third, roughness of surfaces is changed by thermal and oxygen plasma discharge and roughness changes are influenced on the reaction area.