

[S-01] 초청강연

Thermodynamic properties of gas molecules on metal oxide surface

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Studies of dynamics and chemical reactions of molecules on a metal oxide surface are interesting because the interaction of molecules with the surface provides fundamental knowledge to understand the structural development from the two dimensional film to the three dimensional lattice. Furthermore, the results from this study will enhance our understanding on the surface mediated chemical reactions that can subsequently be applied to the study of catalytic reactions aimed at reducing atmospheric pollutant. For the first steps of these studies, adsorption properties of noble gases including argon were examined using newly built computer controlled isotherm apparatus. The isotherm results measured below the triple point (83.78K) showed that argon molecules form two distinct atomic layers on the ZnO surface. In addition, the synthesis of "good quality" of (nano) metal oxide MgO and ZnO powders and their thermodynamic values will be presented.