

Metal-oxide and oxide-oxide interactions play an important role in heterogeneous catalysis. They influence electronic and crystallographic structure of catalyst surfaces, and consequently their adsorption properties. Nanosized powders of CeO₂ supported tin oxide exhibit very good activity in NO reduction by CO. In order to contribute to the elucidation of the reaction mechanism we studied properties of SnO₂/CeO₂ by investigating the thin film model systems SnO₂/CeO₂/SiO₂ prepared by rf-magnetron sputtering of ceria that were doped by tin oxide by means of thermal decomposition of tin acetate in air. The catalyst composition was characterized by photoelectron spectroscopy (XPS) and secondary ion mass spectroscopy (SIMS). The CO and NO reaction was investigated by means of a chip flow micro-reactor.