

Effect of the oxygen vacancy concentration modified by preparation method on CeO<sub>2</sub>-promoted Mn/TiO<sub>2</sub> catalysts for SCR reaction with NH<sub>3</sub>

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Selective catalytic reduction (SCR) reaction with NH<sub>3</sub> had been commonly recognized as the most outstanding technology to abatement of NO<sub>x</sub> in flue gas from stationary sources. However, many engineers asked this method to operate at low temperature (below 250 °C) because of economic issue, and thus, many researchers tried to develop the catalyst having high efficiency at low temperature. Manganese is a promising element in response to these industrial requirement, and various types of Mn-based catalysts are currently developed and investigated. In this study, since the oxygen vacancy is a major factor to determine the catalytic efficiency for SCR reaction with NH<sub>3</sub>, we would like to clarify the relationship between catalytic performance and oxygen vacancy concentration on Mn-Ce/TiO<sub>2</sub> catalyst by changing the impregnation sequence. This investigation would be helpful to better understand the influence of oxygen vacancy affecting on SCR reaction.