

## Microkinetic Modelling of NO Reduction on Pt Catalysts

**Authors :** Vishnu S. Prasad, Preeti Aghalayam

**Abstract :** The major harmful automobile exhausts are nitric oxide (NO) and unburned hydrocarbon (HC). Reduction of NO using unburned fuel HC as a reductant is the technique used in hydrocarbon-selective catalytic reduction (HC-SCR). In this work, we study the microkinetic modelling of NO reduction using propene as a reductant on Pt catalysts. The selectivity of NO reduction to  $N_2O$  is detected in some ranges of operating conditions, whereas the effect of inlet  $O_2$  % causes a number of changes in the feasible regimes of operation.

**Keywords :** microkinetic modelling, NOx, platinum on alumina catalysts, selective catalytic reduction

**Conference Title :** ICCPE 2016 : International Conference on Chemical and Process Engineering

**Conference Location :** Kyoto, Japan

**Conference Dates :** November 10-11, 2016