

Carbon depositions over Ni-based catalysts in Steam-CO₂ reforming of methane

LI PENG,^{*},¹,
; ¹KIST
(youngck@chonnam.ac.kr^{*})

The present studies have been investigated to suppress the carbon deposition by various promoters (Mg, Zr, Ce, Fe) over Ni-based catalysts in steam-CO₂ reforming of methane(CSCRM) to produce synthesis gas(H₂/CO =2) for gas to liquid(GTL). The study investigates the optimal promoter content (3wt%, 5wt%, 7wt%) by co-impregnation method and sequential-impregnation method respectively. The catalytic reactions were tested at 900 °C and 20 bar in the composition CH₄:CO₂:H₂O:Ar = 1:0.7:15:1 and GHSV = 25200 h⁻¹. XRD, BET, TGA and SEM have been used for catalyst characterization. Further study on long-term catalyst stability should be mad