Abstract:

The reaction of steam reforming of methane to singas (mixture of CO + H₂), with Ni (4%) catalysts and Ni promoted by M (2%) (M= Ce, Cu, Cr and Mn) on silica, is carried out at atmospherique pressure between 500 and 700°C.The catalysts were characterized by different techniques of analysis: Atomic absorption, XRD(before and after reaction), the thermoreduction programmed TPR under H₂ (from 25 at 600°C) and FT IR spectroscopy. The studied catalysts exhibit catalytic performances at 700°C, which vary in the following selectivity sequence: Ni-Cr/SiO₂ < Ni-Ce/SiO₂ < Ni-Mn/SiO₂ < Ni/SiO₂ < Ni-Cu / SiO₂. The better catalytic performances of Ni-Cu/SiO₂ catalyst can be due to the nickel dispersion and its reducibility