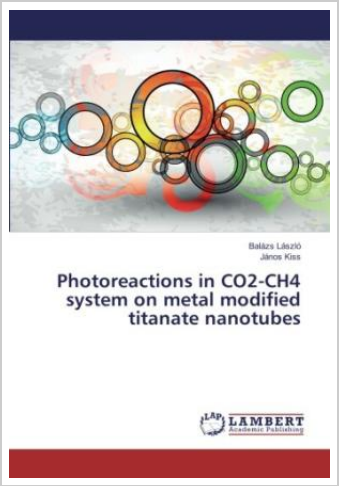

Photoreactions in CO2-CH4 system on metal modified titanate nanotubes

By László, Balázs / Kiss, János

Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | The photocatalytic transformation of the methane-carbon dioxide system was investigated by in-situ methods in the present study. Titanate nanotube (TNT) supported gold and rhodium catalysts were used in the catalytic tests. Our main goal was the analysis of the role of the catalysts in the different parts of the reaction mechanism. The catalysts were characterized by X-ray photoelectron spectroscopy (XPS), high resolution transmission electron microscopy (HRTEM) and diffuse reflectance UV-visible spectroscopy (DR-UV-VIS). Photocatalytic tests were performed in a continuous flow quartz reactor equipped with mass spectrometer detector and mercury-arc UV source. Diffuse reflectance infrared spectroscopy (DRIFTS) was used to analyze the surface of the catalyst during photoreaction. Post-catalytic tests were also carried out on the catalysts including XPS, temperature programmed reduction (TPR) and Raman spectroscopy methods in order to follow the changes of the materials. | Format: Paperback | Language/Sprache: english | 52 pp.

Reviews

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