

Parallelized N₂O Frontal Chromatography for the Fast Determination of Copper Surface Areas

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A parallel reactor setup in combination with a spatially resolving Fourier transform infrared focal plane array detector (FTIR-FPA) system in rapid scan mode has been developed which is capable of analyzing simultaneously the specific surface area of 15 copper catalysts. The system allows the reliable determination of copper surface areas with an error of about ± 1 m²/g. Problems are encountered with very fluffy catalyst powders, since this leads to excessive pressure drop over the catalyst bed. The error brought about by this effect can be eliminated by taking into account the flow deviations between channels in such cases.