

High throughput characterization of gas/solid systems using infrared thermography

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Abstract

High throughput characterization of materials was based on the thermal effect due to the reaction between a solid material and specific gas phase molecules. A dedicated cell was built (9-wells cell) to record by mean of an infrared camera the surface temperature of the material when it was contacted with a specific molecule. The design of the cell allows combining the infrared measurements of temperature with several other techniques like video camera, Raman spectroscopy or mass spectrometry. Catalytic activity, reducibility of solids and specific surface area have been successfully determined by this technique.

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