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Nanomaterial-Based Chemical Sensors

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Due to their high surface-to-volume ratio nanomaterials are highly interesting candidates as functional materials for chemical sensors. Furthermore, using composites enable tuning of the materials properties to allow the formation of sensor arrays, and that can be used for many different applications including industrial process, food and environmental monitoring as well as for medical diagnosis. Due to the ease of the measurement and easy device and materials integration options amperometric, potentiometric and resistive sensors are the preferred choice for application-oriented devices. In this talk several examples for chemical sensing in the gas and liquid phase are given to show the extraordinary properties of the investigated sensing materials (e.g. Nanocarbon composites, Nanoparticle composites, semiconductor fibers, Metal organic frameworks) in various applications.

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