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Visible light-assisted room temperature gas sensing with ZnO-Ag heterostructure nanoparticles

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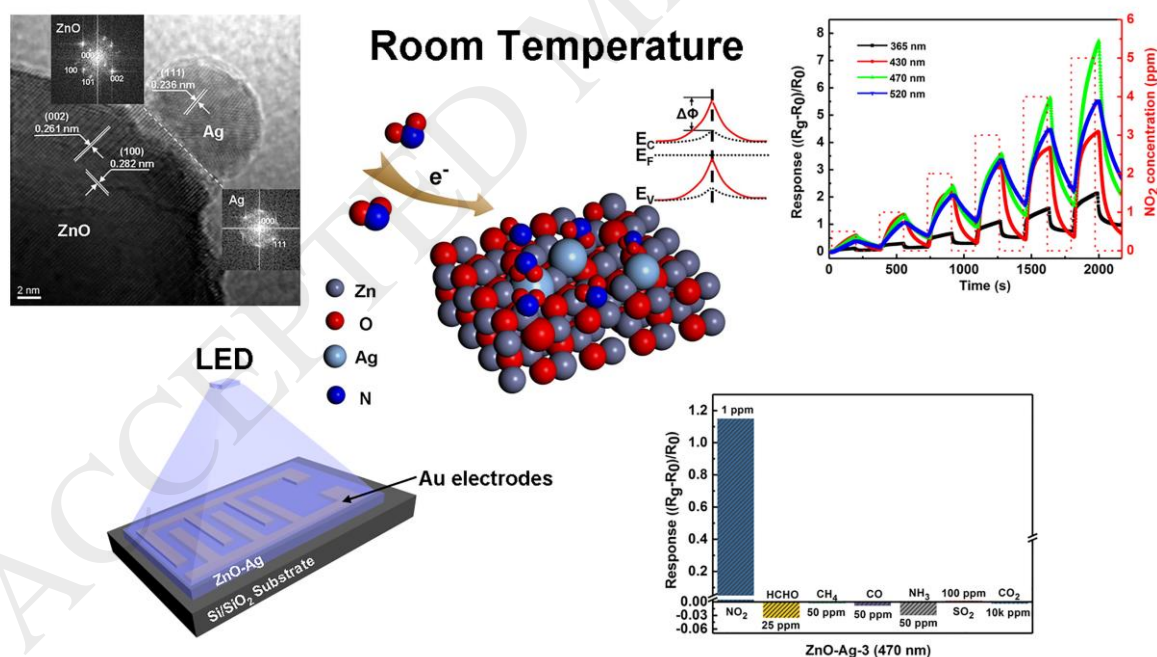
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A gas sensor based on ZnO-Ag nanoparticles is successfully developed for visible light-assisted gas detection. Because a heterojunction forms between the two materials and surface oxygen vacancies increase, the sensor exhibits excellent sensing performances toward NO₂ gas at room temperature under light illumination. The optimal sensitivity can be obtained by tuning the working wavelength using different LED light sources.

ZnO-Ag nanoparticles, heterostructure, oxygen vacancy, NO₂ gas sensing, grain-boundary barrier



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