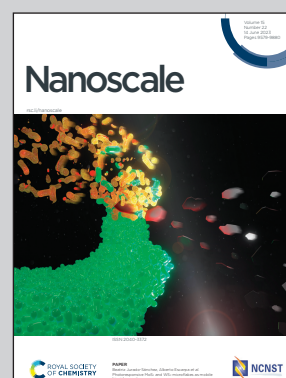


Showcasing research from Fujian Key Laboratory of Semiconductor Materials and Applications, Department of Physics, Xiamen University, Xiamen, China.

Rhodium-embedded UV photodetectors based on localized surface plasmon resonance on AlN/GaN

Based on the self-assembly nanosphere technology, a well-established Rh nanoparticle array was successfully fabricated on AlN/GaN with large-scale periodicity and highly ordered Rh nanoparticles in a hexagonal close-packed structure. Due to the near-field oscillation and far-field scattering effect, the responsivity of Rh-embedded photodetectors is significantly improved in the UV region. This work contributes to the development of LSP-enhancing AlGaN-based optoelectronic devices. In addition, the utilization of Rh nanoparticle array as UV-responsive plasmonic materials is essential for the evolution of plasmonics.

As featured in:



See Na Gao, Kai Huang *et al.*,
Nanoscale, 2023, **15**, 9684.