

Modeling of Nanoparticle Light Emitting Devices

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NNIN Facilities utilized: Characterization Facility & Nanofabrication Center

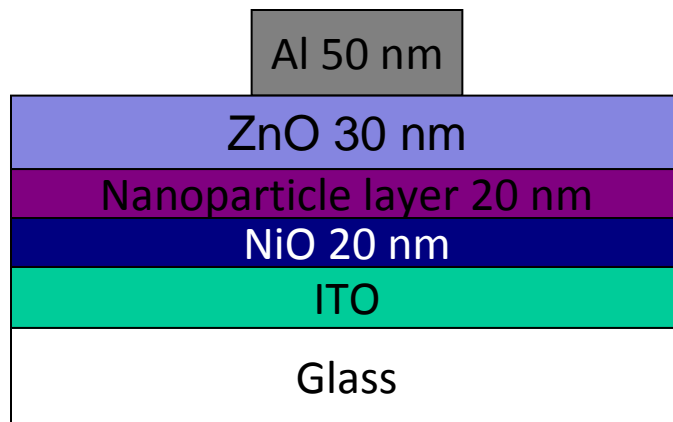
DESCRIPTION OF WORK

- Analytical modeling of nanoparticle LED's made using inorganic hole and electron transport layers
- Numerical simulation of the models thus created and compare it to the experimental results

MAJOR OBSERVATIONS

- A simple model was created with recombination in the nanoparticle layer (which was assumed to be infinitesimally thin) to be proportional to the product of the electron and hole concentration in the nanoparticle layer.

Device Structure



Variation of current with increasing electron injection in the device

